

# RAILWAY AGE

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## STOPS for FUEL . . .

## but NOT for corrosion

### BYERS WROUGHT IRON PIPE



The newest of the Seaboard Air Line Railroad's principal refueling stations, located at Wildwood, Florida, provides fueling facilities for diesel locomotives on the Richmond-Miami run. Following previous practice, Byers Wrought Iron pipe in 4-inch and 6-inch sizes was used for fuel lines, above and underground. Another principal refueling station at Hamlet, N.C., and several smaller stations, have been built by Seaboard in recent years. Wrought iron pipe was used in all.

#### NEW PROBLEMS . . . OLD SOLUTION

With an increasing number of diesel locomotives going into service, the construction of fueling stations is an immediate concern of most major railroads. Whether *maintenance* will be a future problem depends to a considerable extent on the materials used for the pipe. Corrosion from both soil and

atmosphere can be anticipated on all lines, and in the water lines there is an added corrosion hazard. Byers Wrought Iron has demonstrated its unusual durability in a wide variety of applications. In many instances, it paralleled lines of ordinary pipe, and outlasted it two and three to one . . . certainly a convincing demonstration.

#### INHERENT CORROSION RESISTANCE

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Where underground lines are contemplated, you will find some helpful information on the corrosion problem, and ways and means of combating it, in our bulletin, "Wrought Iron for Underground Services." May we send you a copy?

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, Salt Lake City, Seattle, San Francisco. Export Division: New York, N.Y.

## BYERS

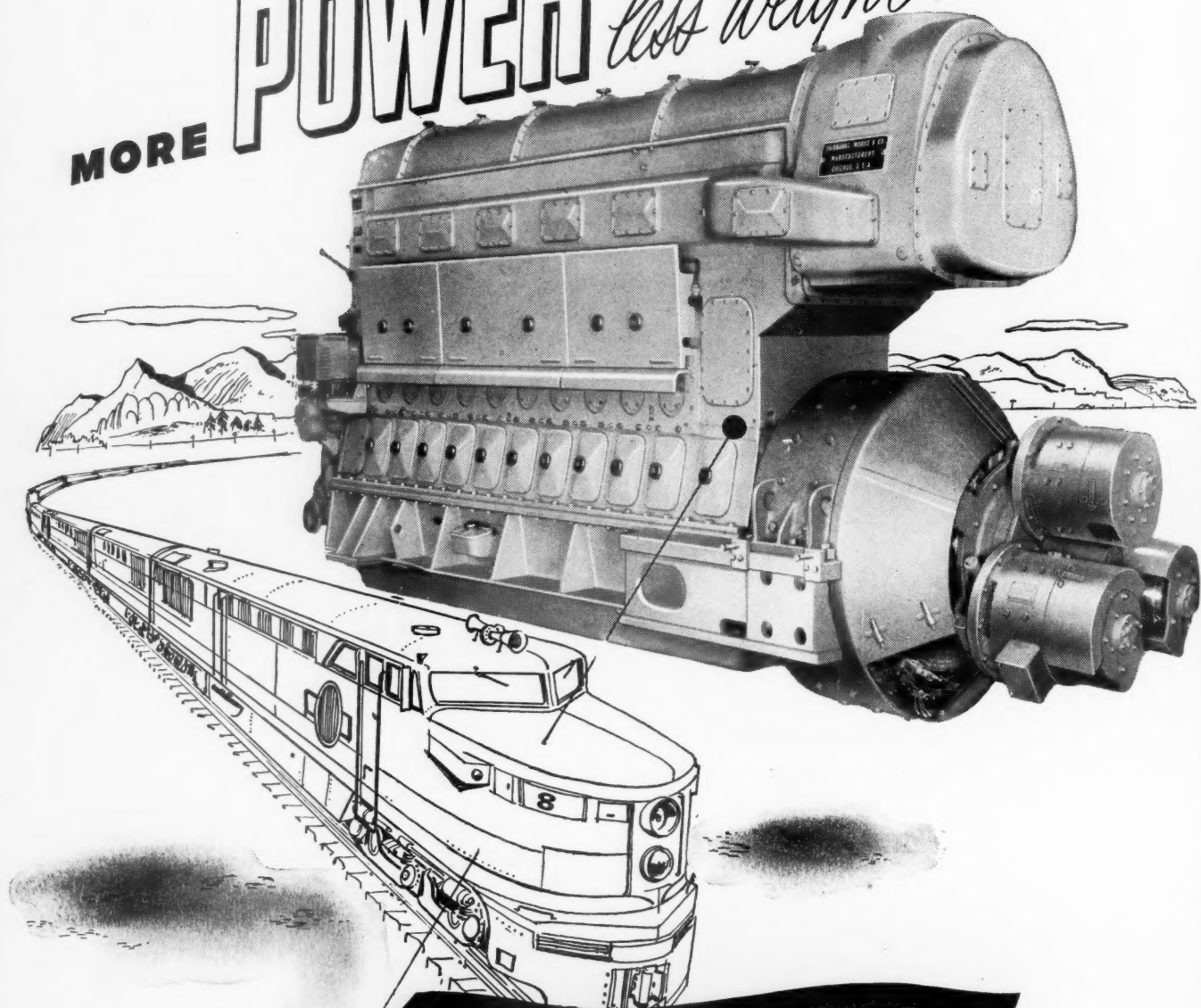
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## IN THIS ISSUE

## EDITORIALS

Taxing the Railroads to Death in New Jersey	35
Trained Coach-Yard Forces	36
A Plain Case of Murder	37

NEW DEVICE	54
------------	----

GENERAL NEWS	55
--------------	----

FREIGHT OPERATING STATISTICS	80
------------------------------	----

## GENERAL ARTICLES

Builds Car-a-Minute Dumper at Lorain	38
A.I.E.E. Holds Annual Meeting	42
Santa Fe Skyway Throws In the Sponge	44
Coal-Burning Gas-Turbine Locomotive, by John I. Yellot, Peter R. Broadley and Charles F. Kottcamp	46
L.C.L. Containers in Experimental Service	49
Stockholder Questions C. & O. Activities	50

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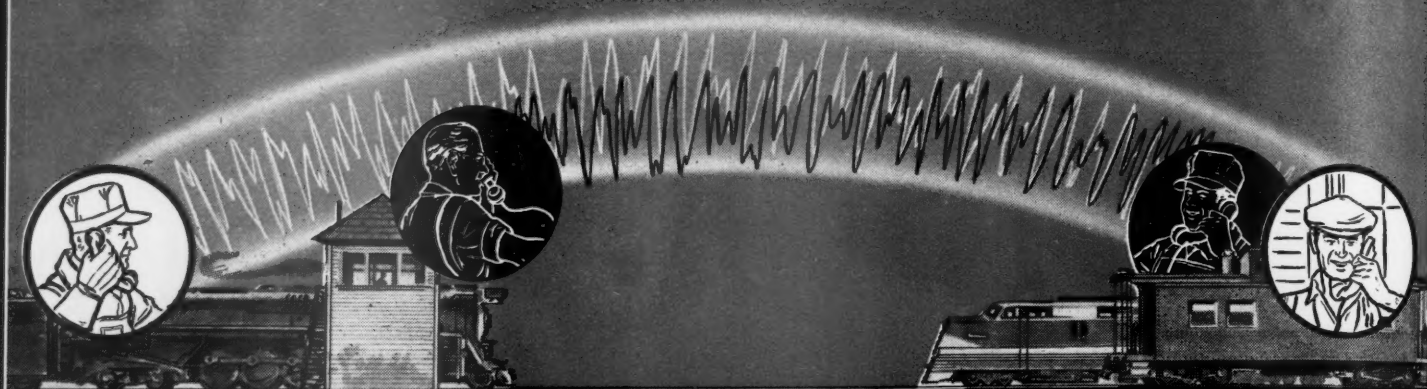
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## WEEK AT A GLANCE

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**AN INTERSTATE TAX:** It's one of the old copy-book maxims that the power to tax is the power to destroy. Proof of the validity of that apothegm is being produced in New Jersey, at the expense of the railroads. Our leading editorial stresses the seriousness of this situation, in which the carriers are being called upon each year to pay taxes in New Jersey that substantially exceed in amount (the exact proportion in 1947 was 796 per cent) the net income produced by New Jersey mileage according to the state's taxing formula. The result is that railroads must use money they earn in other states to square themselves with New Jersey tax collectors—if there is enough such money available. For that reason—and because the continued operation of railroads in New Jersey is a matter of national, not just of local, importance—the question is one of general concern, although relief can be obtained only from the citizens and lawmakers of that state.

**ELECTRICAL MEN'S SYMPOSIUM:** At Pittsburgh this week the electrical engineers have been considering recent advances in their field and new thoughts about such subjects of enduring pertinence to railroad operation as power supply, energy conversion and transmission, distribution costs, and locomotive design and performance. A summary of the proceedings appears in our pages this week.

**NEW LAKE TERMINAL:** The Baltimore & Ohio has just added at one point about \$4 million to its investment in fixed plant in order to give its customers the better service that adequate capacity, efficient lay-out and modern mechanical equipment can produce. The investment is in a new rail-to-water coal transfer plant at Lorain, Ohio, on Lake Erie. An illustrated description of the new terminal appears in this issue on page 38. The installation of electrical equipment includes flood-lighting, a two-way radio communication system, pusher locomotives, and, for safety of operation, a mechanical and electrical interlocking system.

**PROGRESS WITH TURBINES:** John I. Yellott and his associates recently reported to the mechanical engineers on the progress so far achieved in the development of the coal-burning gas-turbine locomotive. That report, which forms one of this week's principal articles (page 46), discloses that full-scale combustion studies were begun last year, and that there are grounds for hope that at least one of the power units will be on test during 1948.

**INTERPRETED OUT OF BUSINESS:** Horatius at the bridge had nothing on the Civil Aeronautics Board when it comes to refusing to budge from a position. Its right to take the position has been challenged by people who do not consider partisan administrative agencies the ideal source of laws for a democratic people, but it continues to function as if its legislative power were unquestioned and unquestionable. Early in its existence the board made up its mind that nobody who engages in the apparently reprehensible business of "surface" transportation can be allowed to

enter into the self-righteously sacrosanct business of air transportation. It continues of that opinion, and the latest victim of its determined application of it is the Santa Fe's air subsidiary. Our editorial comment and illustrated article note that the Santa Fe was giving service that other air lines could not give—and without subsidy.

**NEVER READY:** Our news pages report the Post Office Department's appeal to the Interstate Commerce Commission to vacate its recent order giving the railroads an increase in the pay they get for hauling the mail. The postmaster general's lawyer gave only 30 reasons why the commission ought to do this, asserting that the department really hadn't had enough time to work up its case. This is a reasonable contention, because the department obviously has been very busy—drumming up trade for the subsidized air mail.

**SEAWAY REACHES SENATE:** The Senate has the perennial St. Lawrence ditch proposition on its hands again, our news columns remind us. If those who oppose this scheme for appropriating the money of *all* taxpayers for the benefit (if there should be any, in fact) of *some* taxpayers could be sure that the disposition of this matter would be wholly based on its merits, apart from political considerations, they would have no doubt of the outcome. The success of their educational efforts, it appears, soon will be measured.

**AN INQUISITIVE STOCKHOLDER:** A stockholder of the Chesapeake & Ohio has filed with the Interstate Commerce Commission, and so (in the old sense of the word) published, letters to that company's president, and to the president of the Federation for Railway Progress, in which he has asked a series of questions about the proposed affiliation of the New York Central and C. & O., and about the objectives of the latter road's advertising expenditures, the character of its passenger service and equipment, and the relations between that railroad and the federation. The content of these communications is summed up in an article in this issue (page 50).

**ALUMINUM CONTAINERS:** An article on page 49 describes the operation by the Illinois Central between Chicago and Memphis of aluminum containers for I.C.I. shipments which are designed for quick transfer between flat cars and truck trailers. These Reynolds Metals products are going in service next week in this pick-up and delivery service.

**BRIEFLY NOTED:** Car Service Chairman Kendall looks at the freight car situation a little more cheerfully than has been his wont. . . . The new president of the civil engineers' society is the New York Central's Richard E. Dougherty. . . . President Truman has created an "emergency board" to recommend a settlement of the wage and rules dispute which led three op unions to call a strike.



## ***Keeping up a fast pace***

On the Cotton Belt Route five General Motors freight locomotives have averaged more than 48,000 gross-ton miles per month since entering service—establishing a new tempo of dependable, revenue-producing, cost-cutting operation.

Three of these locomotives were

delivered in June and July 1944; the other two in June 1945. Through October of last year they had amassed a total of 2,113,020 miles—an average per locomotive of 11,938 miles per month—with over-all availability against potential hours in the period of 83.0%. An excellent performance when you consider

the freight volume handled.

In Diesels as in other things, proved performance counts. Here it also signifies the quality and durability built with General Motors Diesels—the one and only product built by Electro-Motive in the largest and most modern plant of its kind.



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## TAXING THE RAILROADS TO DEATH IN NEW JERSEY

The Class I railroads in the ten years 1938-47 paid an annual average of \$886 million in taxes, or  $4\frac{1}{2}$  times as much as the average of \$195 million which they paid to their owners in dividends. In practically every other large country in the world the railroad industry is owned and operated by the government. Certainly nowhere are these publicly owned railroads yielding profits to the owning governments on anything like the scale that the American governments, national, state and local, are collecting in taxes from this country's railroads under private ownership, so called.

### A Critical Prospect

The profitable (that is, profitable to government) fiction of private ownership is wearing pretty thin, however, in some places. Tax pressure can be laid on so heavily that all opportunity for private profit vanishes; and, when that happens, the goose will just have to quit laying the golden eggs and yield up the ghost. One of these places is New Jersey. Long notorious for its excessive taxation of the railroad industry, that state recently adopted a new constitution by popular vote, including a tax clause which the Constitutional Convention recognized would add unfairly and harmfully to the railroads' tax burden. It therefore memorialized the governor and legislature to adjust railroad

taxation to avoid this injustice. In 1947 New Jersey's eleven Class I railroads paid taxes totaling \$14,539,459. Had the new constitution been in effect in that year, these taxes would have been \$21,524,835—an increase of 45 per cent.

It is generally acknowledged in New Jersey that the legislature should act to forestall this increase. In all fairness, the rates should be reduced well below those in effect when the new constitution was adopted. But the state is confronted with a big budget which necessitates finding new sources of revenue. The governor and the legislature realize that the railroads must have relief, but they have not found a convenient way to make up for the consequent loss in revenue. Comparison with other states shows, however, that New Jersey is not availing itself of types of taxes used elsewhere.

The eleven New Jersey railroads paid to the state in 1947 much more for taxes than they earned from operations within that state. This means that they are having to use income earned in other states to pay their New Jersey taxes. The railroad net income allocated to New Jersey on a track-mileage basis, before state and local taxes, amounted to \$1,825,658 in 1947; and the tax bill was \$14,539,459. Taxes were almost eight times net income before state and local taxes.

Conditions were somewhat more favorable in 1946. Allocated net income before taxes was



\$8,654,159, as compared to total state and local railroad taxes of \$15,310,733—almost twice as much. In 1945, and during the war years, with capacity traffic, the allocated net income before taxes on a track-mile basis more nearly approached the amount paid out in taxes—allocated net income in 1945 having totaled \$16,909,829, as compared to state and local taxes of \$19,863,796.

In no year since the state's railroad tax act of 1941 went into effect has allocated net income equaled the amount the railroads have been required to pay in state and local taxes. On the contrary, during the period 1935 to 1947, inclusive, New Jersey state taxes have averaged 214 per cent of allocated net income before state and local taxes; and they soared to 796 per cent in 1947. Allocation of earnings on a track-mile basis has been used for these comparisons since that is the method of allocation prescribed by the taxing act. It was deliberately chosen to insure that the extensive terminal properties maintained in New Jersey would weight the computation in that state's favor.

#### **What Other States Do**

In 1945 (the latest year for which comparative statistics are available), New Jersey's railroad taxes amounted to 3.89 per cent of the Interstate Commerce Commission's valuation of Class I railroads in that state. The next highest rate was New York's, where the percentage was 2.31. In Rhode Island the rate was 2.28; in West Virginia 2.08; and so on down the line to Missouri, with 0.67 per cent. The average for 14 states having extensive railroad facilities was 1.87.

Comparing state and local taxes per mile of line, the burden in New Jersey in 1945 was \$11,028; Rhode Island followed with \$4,585, and New York with \$4,070. The average for the United States was \$1,266. Comparing the rates per mile of track rather than per mile of line, the burden in New Jersey was \$3,673. In New York it was \$1,701; in Rhode Island \$1,686; and in Delaware \$222.

In 1945 the railroads in New Jersey paid \$20,455,387 in taxes. In New York State—which has large passenger and freight terminals in the New York City metropolitan area, in Buffalo and elsewhere, and three times as much railroad mileage as New Jersey—the tax levy on the railroads was \$29,878,342. New Jersey's taxes were 7 per cent higher than those of Illinois, which has five times the railroad mileage of New Jersey. They were 61 per cent higher than Ohio's, which has four times the mileage, and 146 per cent higher than Indiana's, which has three times the mileage.

On whatever basis the comparison is made, the railroads of New Jersey pay exorbitantly high taxes. Under such treatment, the state's railroads are, perforce, doing everything they can to relieve themselves of services and lines on which, under

any conditions, they would lose money, but which just cannot be continued under present tax burdens. Such service curtailment certainly does not contribute to the prosperity and convenience of the public.

Class I railroads, among them the Central of New Jersey and the New York, Susquehanna & Western, became insolvent and still remain in bankruptcy, with taxes being an important contributing cause. Some of the other roads with considerable mileage in the state were threatened financially, but the heavy traffic of the war years saved them, at least temporarily. It is a matter of vital public policy—economic as well as strategic—that the railroads of this seaboard state be maintained in a healthy condition, which is an unattainable objective if the present disastrous policy of taxation remains uncorrected.

All persons interested in the national welfare and security, as well as that of New Jersey and its railroads, should do everything they can to see that the state's legislature, now in session, understands the vital issue this situation presents. Exercising their rights of free speech and petition, there are enough shippers, travelers, employees, suppliers and investors who reside in or have interests in New Jersey to arouse that state's political leaders to appropriate attention and action. It will not be pleasant for the legislators to seek out alternative sources of necessary revenue, but the consequences of forcing the state's essential railroads into drastic curtailment and decay will be even less agreeable.

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## **TRAINED COACH-YARD FORCES**

With the ever-increasing mechanical and electrical complications in modern passenger cars and the use of bright decorative colors, servicing and cleaning this equipment at terminals has become an onerous job, especially in view of present time and personnel limitations. There is often not enough time between scheduled train arrivals and departures to do a thorough servicing and cleaning job. The principal headache of coach-yard foremen, however, is lack of properly trained journeymen in the numerous crafts involved, and the difficulty of maintaining forces large enough to do the work. The morale and sense of responsibility of many terminal employees also leaves something to be desired.

Reliability in performance of every mechanical and electrical detail is the first requisite and cleanliness is hardly second, if passengers are to be properly served and favorably impressed. The complexity of much work on modern passenger

equipment is indicated by a brief review of some of the things which have to be looked after. Entirely aside from necessary attention to such parts as couplers, draft gears, wheels, journal bearings and trucks—coach carpenters check the condition of door hinges and locks, seat mechanisms, window frames, cappings and wall panels. The electricians' group is responsible for all electrical devices, including air-conditioning and heating controls, lights, electric water coolers, fans and motors, juice extractors, dish washers, public-address systems, radio, etc. Pipe fitters check all plumbing fixtures and repair leaky pipes, defective toilets, wash basins, dental bowls, tanks, water-system valves and all of the multitudinous automatic valves in the heating and air-conditioning equipment.

Tinners repair dining-car coffee urns, steam tables, sinks, chill boxes and repair and replace air filters. Upholsterers are responsible for the condition of all seat upholstery, carpets, drapes, curtains and rubber tiling. Painters touch up interiors to remove marks, and colors must be carefully matched, especially in new equipment with light pastel shades. Superimposed on all this work is the major task of cleaning cars, outside and in, by well-established methods which take time.

Many of the electro-mechanical devices on modern passenger cars are intricate and more or less delicate and hence require technically trained and skilled mechanics to keep them in good order and accurate adjustment. What are railroads doing to develop competent craftsmen with the specialized experience necessary for satisfactory performance of this work? One suggestion advanced in discussion of this subject at a Pacific Railway Club meeting last fall was the development of more adequate journeymen-training programs and the encouragement of apprentices to qualify themselves for this work. There isn't much point in spending millions of dollars for impressive passenger equipment unless adequate and competent forces are provided to keep it that way.

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## A PLAIN CASE OF MURDER

What promised to be a revolutionary development in the air transportation of freight has been stopped dead in its tracks by an opinionated and partisan board of government regulators. In denying to Santa Fe Skyway, Inc., the right to live—solely because it is owned by a surface carrier—the Civil Aeronautics Board has denied shippers for the present the right to a trial of high-grade, adequately capitalized air freight service, coordinated closely with an existing organization of 70,000

experienced transportation men with the "know how" to render ground services touching upon more than 400 communities, most of which cannot otherwise gain the benefits of air transport. At the same time the board has denied taxpayers the right to a trial of unsubsidized air transport and the immense savings of full utilization of existing efficient, functioning ground transportation facilities in connection with the air carriage of freight.

Finding unprofitable the contract-carrier status to which it was thus confined—in the face of interim common-carrier rights granted to its direct competitors—the Atchison, Topeka & Santa Fe "reluctantly" withdrew from the air transport business effective January 15. In its 18 months of operation the railroad's air affiliate gained an enviable reputation for the excellence of its equipment and service and the safe and reliable performance of its personnel.

What Santa Fe had in store for the American public is described in an article elsewhere in these pages. Its well-ordered plans envisaged an air cargo service of high standards operated as a part of a general transportation organization, in which "marginal" communities could benefit from the speed of air service through joint ground and air handling; in which shippers could enjoy through rates and billing between all points served by the organization and by any form of carriage, whether with air ports of call or not; and in which taxpayers could be freed from paying out subsidy money to enable independent air carriers to build up expensive ground facilities.

Despite the fact that its limited scope as a contract carrier made it incapable of demonstrating the service advantages and cost savings of coordination, Santa Fe Skyway achieved superior standards of operation, recognized as such by qualified observers in the field. This stemmed chiefly from the railroad's ability to supply adequate capital and to furnish the highest quality of equipment and staff. The latter succeeded in widening the horizon of air freight service by ingenious new departures in the design of planes and the handling of cargo which, in turn, broadened the market for air freight transport.

It is ironical that the regulatory body which has been accused of "promoting too much and regulating too little" should now decree the death of one of the most progressive freight carriers in the air. The semi-official magazine, U. S. Air Services, which is crusading for a powerful civil air transportation system in the interest of what the Air Force calls "more air lift in being," expressed itself editorially on the C. A. B.'s treatment of Santa Fe Skyway as follows: "Let us simply state that, when C. A. B. is passing out the muskets, there must be a very good reason for withholding a weapon from any fighting marksman of known ability."





The new dumper at Lorain with ship in position for loading. Note that one of the narrow-gauge locomotives has delivered a loaded coal car to the foot of the Barney incline

## BUILDS CAR-A-MINUTE DUMPER AT LORAIN

*Electrically-operated facility of Baltimore & Ohio, incorporating complete communication systems, safety devices, floodlighting and other supporting facilities, is designed for efficient operation*

**R**eady for general service at the opening of the 1948 shipping season on the Great Lakes is another large-capacity, modern, rail-to-water coal transfer plant, embodying a car dumper of the lift-and-turnover type capable of handling a 70-ton car a minute. This plant is located at Lorain, Ohio, directly on Lake Erie, and was built by the Baltimore & Ohio at a cost of approximately \$4,000,000 to replace facilities of smaller capacity located farther inland on the Black river.

Electrically operated, the new dumper encompasses the most modern equipment, including a telescopic chute for the careful and efficient transfer of coal from railroad cars to the holds of lake vessels with a mini-

mum of degradation; a two-way voice radio communication system, supplemented by telephones and loudspeakers, to coordinate various operations; and a system of mechanical and electrical interlocks on all of the machinery. In addition to the new dumper the project entailed the construction of two large earth-fill piers (on one of which the dumper is located), seven service buildings, supporting empty- and loaded-car yards, and certain changes in city streets and sewers.

Located on Lake Erie at the mouth of the Black river, Lorain has long been an important terminal of the Baltimore & Ohio for the transfer of coal shipments from cars to ships, as well as for the transfer



of ore from ships to cars for delivery to steel producers. Before the recent improvement project was undertaken, existing facilities at Lorain embodied yard and terminal trackage along the west bank of the Black river, which extended inland, or upstream, for approximately two miles; ore-unloading cranes, an ore bridge and a storage area for ore at the mouth of the river; and a steam-operated coal dumper, installed in 1908, which was located approximately  $1\frac{1}{2}$  mi. inland. This dumper was supported by trackage having a capacity of 40 cars. Between its mouth and the site of the old coal dumper there are several sharp bends in the river as well as two bridges, one carrying a main highway over the river and the other the main line of the Nickel Plate.

### The Improvement Plan

Due to the winding course of the river and the necessity of passing through the two bridges, the majority of ships required two tug boats to pilot them from the lake to the coal dumper. This  $1\frac{1}{2}$ -mi. trip averaged  $1\frac{1}{2}$  hr. in each direction, besides entailing the cost of towing services. In addition, the steam-operated dumper had a capacity averaging but 30 cars an hour, which added to the loading time. Furthermore, because of the limited capacity of the supporting yard, it was necessary to use two switch engines during loading operations to remove the empty cars and maintain a supply of loaded cars for dumping. Therefore, giving consideration to the age of the existing dumper and its restricted capacity, and the additional time involved in making the trip upstream, it was decided to install new dumping facilities, to be located near the lake.

The plans called for the construction of two new piers on the west side of the river at its mouth—the east pier to be held in reserve for further development,

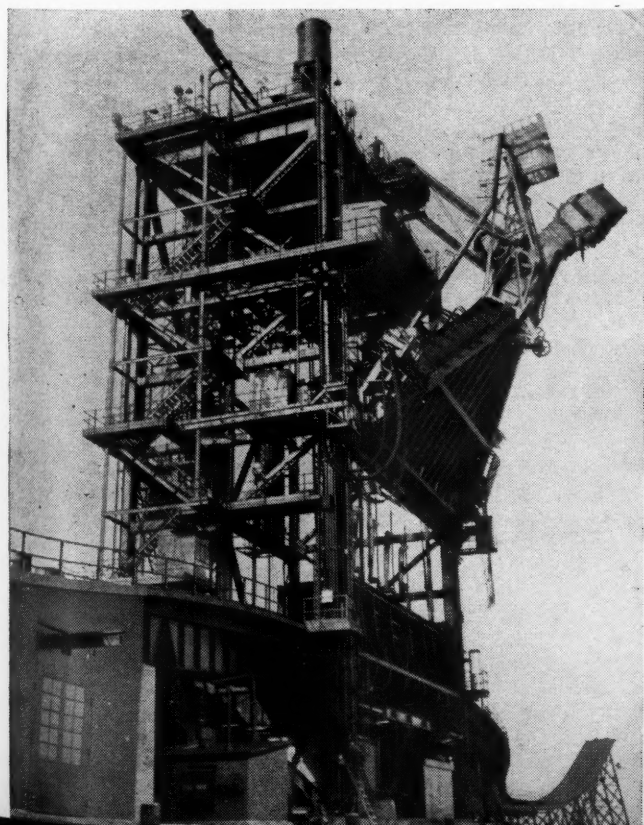
and the west pier to provide the location for a new coal dumper, service buildings and loaded- and empty-car storage yards. No change was contemplated in the ore-unloading cranes and their supporting tracks, but the ore bridge was removed so that the space occupied by the ore storage area could be used to accommodate part of the new coal-car storage yards. All this work, including construction of the new dumper, has now been practically completed and the dumper has been test operated.

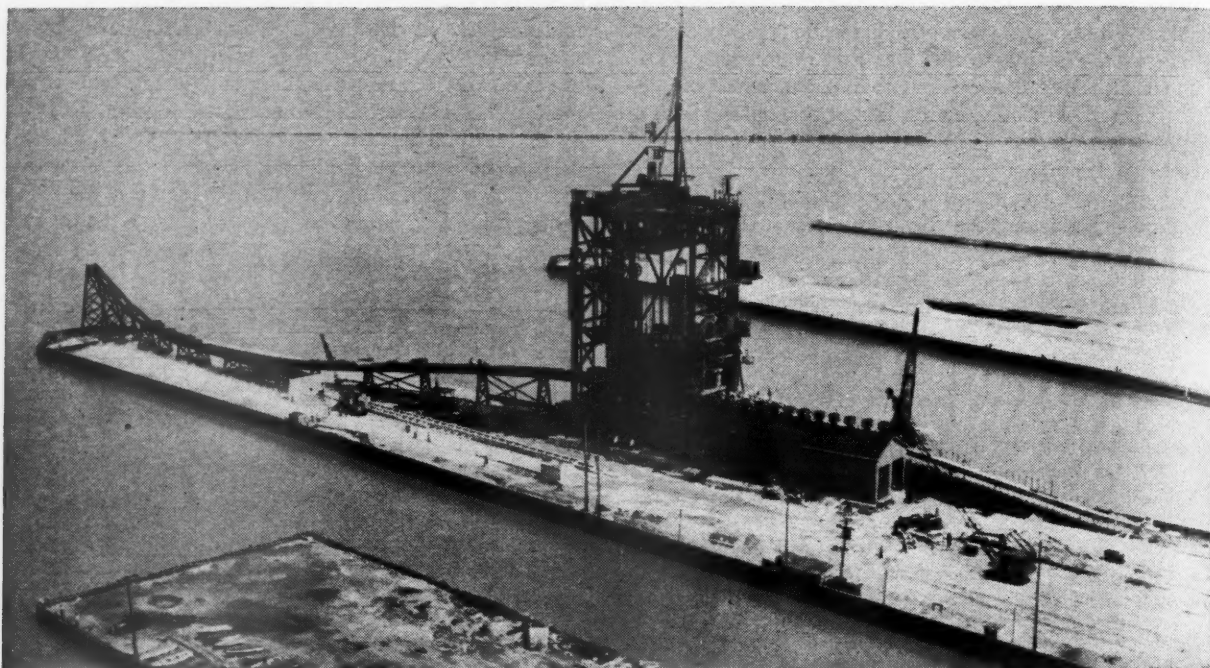
### The New Piers

In removing the ore bridge a cantilever end was severed by cutting torches and lowered by a crane, while the bridge proper was cut in the center to weaken it and then felled by blasting. Afterward it was cut into convenient lengths for loading on trucks for disposal. Other preliminary work included the relocation of a city street in the vicinity of the project and the extension of two sewer lines.

Each of the new piers is 1,100 ft. long and 250 ft. wide at the shore end and about 80 ft. wide at the lake end. The piers are of sufficient size to accommodate the berthing of four ships simultaneously during working periods and six vessels for harboring during the winter months. They consist in each case of an earth fill retained between walls constructed of 57-lb. per lin. ft. Type-Z steel sheet-piling capped with a line of 18-in. steel channels. The walls of each pier are tied together transversely by means of  $2\frac{1}{2}$ -in. upset steel rods with turnbuckles. Steel walers bolted to the inner face of the piling serve as anchors for the transverse rods, while steel-angle girts, bolted to the outer face, serve to support 12-in. by 12-in. timber rubbing logs extending along the entire perimeter of each pier, except at the outer end where special protection is provided. Mooring posts are located on 48-

Left—Close-up of the dumper with the pan and chute in the raised position. The kick-back trestle appears in the background at lower right. Right—Construction view of the dumper taken from the end of the kick-back trestle. Note car retarders on lead to the empty-car yard





This general view of the new west pier was taken when the dumper and related facilities were under construction. The new east pier (in background) is to be held in reserve for future development

ft. centers, along each side of the piers, being so spaced as to conform with the hatch openings of the ships.

### **Driving the Sheeting**

In placing the steel sheeting, pilot channels were made along the line of the pier walls to provide adequate space for the operation of drill boats and derrick scows, after which holes were drilled in the bed of the lake and the shale bottom shattered by blasting. This work was followed by the driving of the sheet-piling along the line of the blasting. The piling was driven by three derrick scows, using a Vulcan 00, a Vulcan No. 1 and a 9B3 McKiernan-Terry steam hammer, and special heads which were cast for this work by the contractor. As the driving progressed the steel walers were bolted to the inner faces of the piling and the girts to the outer faces. The sheet-piling varies in length from 40 to 45 ft. and has an average penetration of 10 ft. The piles were cut off to grade by torches and the 18-in. channels were placed and welded to them. A total of 3,000 pieces of sheet-piling was used in constructing 4,500 lin. ft. of pier wall.

After completion of the pier walls, the fill material, amounting to about 150,000 cu. yd., was placed within them from dredging operations and from earth excavation at the site of the new yards. The outer ends of the piers were rock filled and constructed with a heavy concrete cap to insure stability. Dredging was carried out on both sides of each pier, as well as at a turning basin at the lake end of the piers. This work was done by a dredge of the dipper type, equipped with a 9-yd. dipper, loading into three all-steel welded barges, each with a capacity of 1,500 cu. yd. These

barges were of the bottom-dump type, with the doors operated by steam pressure from the towing tug boat. All unsuitable material was hauled to government dumping grounds located four miles out in the lake. The turning basin thus formed is of adequate size to accommodate any vessel now plying the lakes or any now contemplated for construction. The slip between the piers, 22 ft. deep, likewise is capable of accommodating the largest coal boats on the lakes.

All foundations for the dumper proper and attendant structures are supported on clusters of steel H-piles, capped with concrete. The piles, 548 in number, vary in size from 12 in. to 14 in., weigh from 74 to 102 lb. per foot, and range in length from 36 to 48 ft. For protection each pile is enclosed at the top within a 7½-ft. length of corrugated iron pipe, 24 in. in diameter, which is filled with concrete. These pipes, which extend below the water line, were driven in place with the steam hammers used for driving the piles, employing a special mandrel. Approximately 21,800 lin. ft. of steel H-piles were required for these foundations.

### **Facts About the Dumper**

The coal dumper constructed on the westerly pier consists essentially of a structural steel tower incorporating a cradle for elevating single cars and dumping their contents into a pan, from which the coal flows to a telescopic chute, equipped with a gate trimmer, and thence into the hold of the vessel being loaded. The dumper is located at the outer end of the loaded-car yard, in which the tracks converge into a single track leading to the barney incline to the dumper.

From the yard the cars are pushed individually onto the lead track to the dumper by electric locomotives



operating on narrow-gage tracks. At the foot of the barney incline leading to the dumper, a disappearing type barney, operating in a pit between the rails, comes up behind the car to push it up the incline to the cradle for lifting and dumping. A feature of this operation is that, as the coal is passing from the car to the ship, it can be automatically washed and sprayed with a chemical solution to reduce dust. In the interest of safety a complete system of electrical and mechanical interlocks is provided on all the machinery.

After being emptied and lowered on the cradle to track level the empty car is pushed off the cradle by the next loaded car to be dumped, and moves down an incline and onto a kick-back trestle which reverses the movement of the car and delivers it to a track leading to the empty-car yard. The speeds of cars moving over this track are controlled by electric car retarders. These retarders, as well as mechanically operated switches in the yards, are controlled by a tower operator.

To assure maximum efficiency in the operation of the dumper, as well as complete coordination between the supervisor of the coal dumper, the tower operator and the operators of the electric pusher locomotives, two-way voice-radio communication, of the frequency modulation type to eliminate atmospheric interference, has been provided. This system is supplemented by telephones and loud-speakers.

The pier containing the dumper is fully floodlighted for night operation. Both piers are provided with fresh water, compressed-air and electric-current outlets for vessels tied up at them. Access roads permit trucks or automobiles to be driven practically to any point on either pier.

### Yards, Service Buildings

The loaded-car yard contains four tracks with a total capacity of 126 cars, and three narrow-gage tracks for the operation of three electric pusher locomotives. These locomotives operate on third-rail contact on 230-volt direct current and each have a rated drawbar pull of 20,000 lb. The empty-car yard has five tracks with a total capacity of 223 cars. The yards for both empty

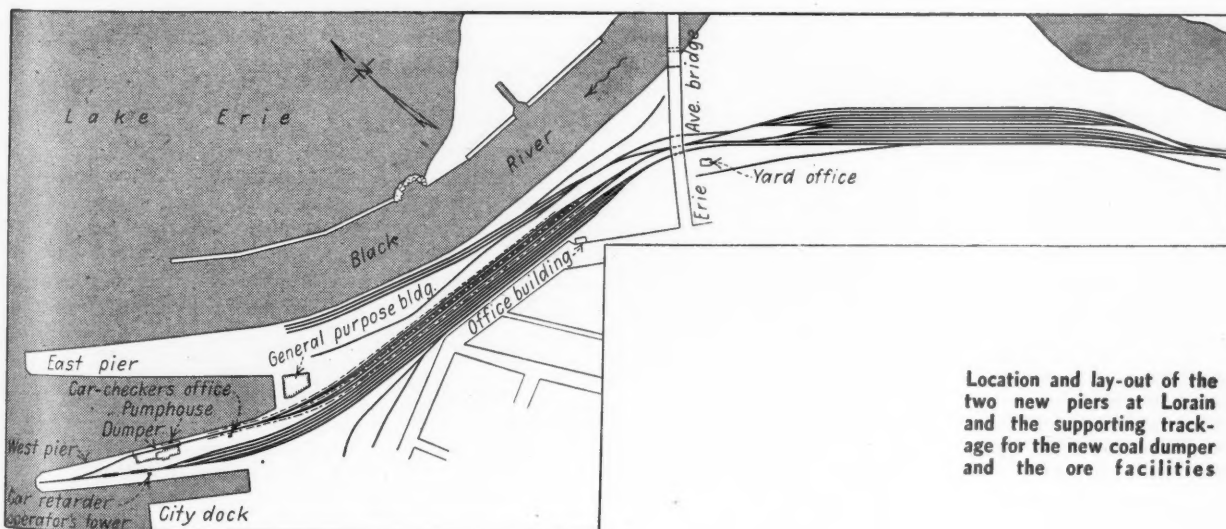
and loaded cars extend onto the mainland. The grading here was done by means of scraper units and the excess excavation was used for pier fill.

Existing trackage supporting the ore-unloading facilities accommodates 140 cars. Including these tracks, those in the "empty" and "loaded" yards for the new dumper, and other additions made in connection with the work, the total capacity of the tracks supporting the ore and coal operations has been brought up to 800 cars.

### General-Purpose Building

Among the seven service buildings housing offices, controls and other attendant services, a general-purpose building is the largest and most interesting. This building is a two-story brick and steel structure 100 ft. by 125 ft. in plan. On the first floor are located a complete machine shop, locker rooms for employees, shower rooms and rest rooms. The machine shop is equipped for making repairs to all equipment used at the ore-handling facilities and the coal dumper, as well as for making light repairs on ships. The second floor is used largely for a lounge and reception room for the exclusive use of ships' officers, where their friends and families may visit them. The balance of the second floor is used for rest rooms and a drying room for laundry.

The plans and specifications for the improvements at Lorain were prepared under the general direction of A. C. Clarke, chief engineer of the Baltimore & Ohio, and executed under the general supervision of E. F. Wright, regional engineer, Pittsburgh, Pa. The work in the field was under the direct supervision of L. Balderson, assistant engineer, assisted by L. Hemmeter, field engineer. The dredging, the construction of the piers and the foundations for the dumper and the buildings, and the yard work were performed by the Cleveland office of the Merritt-Chapman & Scott Corp., with R. E. Mothersbaugh as superintendent. The buildings were constructed by the Monton Construction Company, Cleveland, and the dumper was supplied and erected by Heyl & Patterson, Pittsburgh, Pa., with E. S. Eckert as superintendent.



Location and lay-out of the two new piers at Lorain and the supporting trackage for the new coal dumper and the ore facilities



# A. I. E. E. HOLDS ANNUAL MEETING

***Lower-cost electrification, locomotive performance, high-speed braking and air conditioning on its agenda***

**M**eans of reducing the cost of railroad electrification were featured in a symposium of papers presented at the winter meeting of the American Institute of Electrical Engineers, held in Pittsburgh, Pa., January 26-30. The subject was divided into power supply, energy conversion and transmission, distribution, and locomotives.

## **Power Costs**

The question of power costs and the contribution of existing transmission networks towards cost reduction of power for electrification of main-line railroads with moderate traffic was presented by Llewellyn Evans, chief consulting electrical engineer of the Tennessee Valley Authority, Chattanooga, Tenn. This paper is coupled with another on energy conversion to show how main-line railroad electrification can profitably be extended to include medium-traffic lines, and is not necessarily confined to the field of heavy traction and heavy grades. Power costs are the theme of Mr. Evans' paper, in which he sets up and distributes the estimated electricity requirements and computes the bills for four conditions covered by the energy conversion paper.

## **Conversion and Transmission**

The results show that the total cost of power is of the same order as the capital charges for the trackside construction and substation as predicted by the energy conversion paper, but the average price for power varies from 0.5 cents to 2 cents per kilowatt hour, depending on the load factor of the individual stations and the source of power. Conditions such as regenerative braking on grades, careful dispatching of trains, etc., can be chosen, Mr. Evans states, so as to earn a desirable price for power. The annual cost of building and operating transmission lines to combine metering stations, he says, is more than twice as much as the extra demand charges at the supply points chosen.

A paper, "Railroad Electrification Energy Conversion and Transmission Costs," was presented by R. L. Kimball and J. G. Holm, of Gibbs & Hill, Inc. It deals with costs and design of conversion and transmission requirements for railroad electrification from a point of power purchase to the point of delivery to electric locomotives. Single-phase 25-cycle electrification, with 24 kv. on the trolley and 72-kv. feeder voltage, and a 6,000-volt d.c. electrification are compared. Frequency changers, mercury rectifiers, and wood pole supporting structures are employed.

On the basis of design adopted, the results show that,

it is possible to obtain an installation at a favorable cost, using either alternating or direct current. The economy of electrification depends on the traffic density. Considerable savings are shown by having a high power factor at the locomotive and by making use of power interchange between main substations of an a.c. system. The paper also shows that should the prices for d.c. equipment go down as the apparatus is developed further, the d.c.-versus-a.c. comparison will become more favorable to direct current.

## **Distribution**

"Are the Overhead Distribution Costs Retarding Railroad Electrification?" is the title of a paper presented by L. W. Birch, Ohio Brass Company. The paper raises the following questions: Electrification of steam railroads in the United States and Canada in the past decade has not kept pace with previous periods, but, during the past ten years, electrification of heavy mine haulage, industrial tracks, certain terminal and suburban centers, and foreign railroads, has continued. Could it be, Mr. Birch asks, that economics do not favor the electrification of the large steam railroads in this country at the present time? If so, he continues, does the cost of the overhead distribution system contribute to the slowing down of electrification? His paper discusses recent developments in overhead design that, it is believed, will tend to reduce distribution costs. The paper also discusses possible means of reducing construction costs, particularly by suggesting certain substitutes for the high-cost work train. Certain changes in the general dimensional limitations to overhead clearances for the distribution system are proposed and the economic advantages of these changes are discussed.

## **Locomotive Design**

A paper on "Electric Locomotives with Identical Basic Components," by W. A. Brecht and Charles Kerr, Jr., of the Westinghouse Electric Corporation, was also presented as a part of the symposium. A complete line of electric locomotives is described, ranging in capacity from 1,875 to 7,500 continuous rail horsepower, where all locomotives utilize identical 4-wheel trucks. The 1,875-hp. unit employs two trucks (4 axles) and the 7,500-hp. unit, 8 trucks (16 axles). For a given a.c. or d.c. trolley supply, identical motors would be used, the proper gearing being selected for passenger, freight or switching service. Most control and auxiliary equipment will be identical throughout the series, the quantity varying according to size.

This method of construction would permit a degree of standardization never obtained previously with electric locomotives. Thus, the authors state, first cost can be reduced and rigid standardization of parts, especially those subject to wear, will result in low maintenance expense. In addition, the entire series offers other attractive features, including good tracking qualities at all speeds, light axle loads (45,000 lb.), sustained power over the entire locomotive speed range, all weight on drivers, high starting and running tractive force, and conservative adhesion values. The ideas discussed in this paper constitute a new conception of electric locomotive design.

Other transportation papers, not included in the symposium, deal with locomotive operation, power factor correction, high speed train braking, automatic transition for Diesel-electric locomotives, and air conditioning for railroad passenger cars.

"Comparative Operating Results of Steam, Diesel-Electric, and Electric Motive Power on the Great Northern Electrification" were discussed in a paper presented by J. F. N. Gaynor, superintendent of electric operation of the Great Northern.

### **Locomotive Performance**

The paper describes electrical operations from early 3-phase tunnel-type locomotives to the modern motor-generator type. Performance comparisons and costs are given for steam, electric, and Diesel-electric motive power on the same profiles. Methods of testing the various types of motive power for running adhesion limits, rail horsepower, and tonnage ratings necessary for satisfactory operation of all three types in the same train are discussed as well as heavy tonnage operating methods used to haul any desired tonnage on maximum grades up to the limit of passing tracks' capacity, by means of proper location of swing helper locomotives in a train. The superiority of motor generator locomotives for heavy traction service, and the relationship between initial investment, along with power costs, maximum demand rates, and clocking are shown with their probable effect on future electrifications. Suggestions of motive power standardization and a standard power system as affecting electrification are given.

### **Power Factor Correction**

A paper entitled "Shunt Capacitor Installation for Single-Phase Railway Service," was presented by H. F. Brown, engineer electric traction of the New York, New Haven & Hartford. A 10,000-kva. bank of shunt capacitors, recently placed in service on the 22-kv. electric traction system of the New Haven, is the first installation of this kind to be made on a 25-cycle single-phase system. Made up of 25,400 kva. of 60-cycle 15-kva. units, it is also one of the larger capacitor banks in operation. The installation is tuned by means of series reactors to control both the third and fifth harmonic voltages on the traction system. The units are switched automatically in steps of approximately 2,500 kva. each. This reactive supply has increased the traction system voltage by as much as 20 per cent, and has released 6,000 kw. in generating capacity during peak load conditions. In addition, it will save an estimated \$20,000 a year in cost of energy losses by

decreasing the hours of operation of several large frequency changers, previously operated much of the time as synchronous condensers for voltage control.

The paper reviews the conditions giving rise to the need for additional reactive capacity, compares the relative costs of synchronous condensers and shunt capacitors for 25-cycle single-phase service, and discusses the problems incident to the installation of capacitors on a railway system. The general characteristics of the capacitor station are given in some detail. Six months operating experience and test results are reported.

### **High-Speed Train Braking**

"A Unique Application of the Wheatstone Bridge to High-Speed Train Braking" is discussed in a paper by C. M. Hines, Westinghouse Air Brake Company, Wilmerding, Pa. It describes a method for indicating to the locomotive engineman the condition of the circuits controlling the electro-pneumatic brakes which are now in widespread use on high-speed passenger trains. The apparatus consists of a Wheatstone bridge so arranged as to insure the operation of the bridge itself as well as to indicate the condition of the electro-pneumatic brake circuits. Calibrated dials indicate the number of vehicles in the train. This equipment is proving to be a useful tool in making terminal tests, and in assisting in determining the location of any change of resistance of the train line wire circuits which may occur. It also provides a convenient means for indicating to the engineman while en route any change which may occur in the train line circuits. All parts of the equipment are designed to provide the ruggedness essential for long life on locomotives.

### **Diesel Locomotive Control**

Speed responsive devices for controlling motor transition and other functions on Diesel-electric locomotives are described in a paper presented by A. V. Johansson, General Electric Company, Erie, Pa.

Modern Diesel-electric locomotives usually employ two motor combinations and one or more steps of field shunting in each combination. A method of selecting proper motor connections automatically on a basis of train speed is described.

### **Air-Conditioning**

"Alternating-Current Air Conditioning for Railroad Passenger Cars" is the title of a paper which was presented by H. H. Hanft, Westinghouse Electric Corporation, Pittsburgh, Pa. A.c. passenger-car air conditioning equipments have been developed to reduce equipment weights and to eliminate many items liable to equipment failure. Such a.c. cooling systems are powered by steam turbine generators, or by Diesel or gas-engine generators. Storage batteries are reduced to nominal size and weight and operate on a relatively light duty cycle. Maintenance needs and liability of equipment failure are reduced by eliminating many maintenance items entirely, and by substituting squirrel-cage induction motors for d.c. machines with commutators and brushes. The potentialities of such systems are discussed in Mr. Hanft's paper.



Santa Fe furnished the most modern type of equipment, as is evidenced by this night-time photograph

## SANTA FE SKYWAY THROWS IN THE SPONGE

*Railroad subsidiary would have provided extraordinary freight service if government regulatory agency had permitted it to live*

What many aviation authorities admit was the country's most refined and progressive air freight service has been given the axe because it belongs to a railroad. Forced to suffer the handicaps of the contract operator while its direct competitors exercise common-carrier rights on a temporary basis (without a finding of public convenience and necessity), Santa Fe Skyway decided to close out, as it announced publicly on January 13 (see *Railway Age*, January 17, page 48) and the last flight under the Santa Fe symbol came to an end on January 15.

So ended the public service of a high-caliber cargo-flying organization of 140 employees and officers—most of whom were veterans—which, in the 18 months of its existence, flew more than two million airplane-miles without a single accident in the air or failure involving damage to airplane or cargo or injury to a crewman. Since Skyway started operations on July 31, 1946, only one planned revenue flight had to be cancelled because of mechanical failure. In the peak month of its operation in the fall of 1947, the organization carried at the rate of 16 million ton-miles a year, despite the handicaps to high utilization of plane space imposed by its contract carrier limitation.

Santa Fe Skyway could have continued in service as a contract carrier, but decided that it could not properly do so for two major reasons. In the first place, contract flying made it impossible to achieve even a break-even operation on the basis of the extremely high standards of service, equipment and personnel which Santa Fe was unwilling to sacrifice. This adverse factor was intensified after Skyway's direct competitors achieved a common carrier status which enabled them to solicit business from all parties and at all points of call. In contrast, Skyway, was confined to the transport of goods for a limited number of regular customers who were willing to ship at frequent intervals over an extended period of time. Thus, for example, a transcontinental plane discharging a portion of a load at Oklahoma City could not pick up a load to fill the space for the remainder of the flight, except under unusual circumstances.

In the second place, and, perhaps more important, under contract status Santa Fe could not possibly achieve the coordination of service with its ground facilities which was its chief justification for going into the air freight business. The fact that it could serve only a few customers (Skyway had to refuse more



Transfer at dawn. Cargo is transferred at Oklahoma City from a transcontinental plane of Santa Fe Skyway to a smaller two-motored plane running to Dallas, Tex.



than twice as many customers as it could accept) and that their shipments were between major cities at which the planes called, prevented the Santa Fe from testing the service merits and cost savings of coordination with its existing railroad and highway facilities, including through rates and billing and published schedules of joint air-ground service between all points served by the parent railroad.

### **What Might Have Been**

In denying Santa Fe Skyway interim rights to operate as a common carrier, while at the same time granting them to its competitors, the Civil Aeronautic Board totally ignored the quality of service which Santa Fe was already offering, even under the limitation of the contract carriers, and arbitrarily decided to "save" the business community from any test of the wider horizons in air freight transport made possible by coordination with a big and efficient ground transport organization. In fact, the board has not granted even a pre-hearing conference with regard to Santa Fe's application for common carrier certificate. In its denial of even interim rights for Santa Fe, the board singled out the railroad affiliate from other contract carriers for such treatment, a clear indication, according to H. R. Lake, president of Skyway, that "the board is determined to exclude surface carriers from any effective participation in the development of air transport."

By such action, C.A.B. closed the door on the possibility of the country's ever trying the promised benefits of coordinated service—unless the law or the character of the board itself is changed. If granted common-carrier rights, Santa Fe proposed to give a full and complete trial to a number of important improvements, which cannot be attained unless coordination of air service with existing ground organizations is effected.

Santa Fe planned to operate its air arm as a part of an extensive and intensive transportation organization. The shipper would simply offer the freight and he or Santa Fe would decide how best to move it, considering time, distance and cost. This arrangement would add immeasurably to the shipping aids which the air carriers now provide. As a Santa Fe customer, the shipper would have the advantage of a through rate and bill of lading from origin point to ultimate destination. (There are currently in effect no through rates for air freight applicable to points at which the planes do not regularly call; only the air express service of the Railway Express Agency offers this feature). As a result, the shipper could reap the benefit of air service between points where direct air freight service is not rendered and need take no care for transshipment between air and surface carriers. Just as the railroad now takes the customer's less-carload freight from a freight car at break-bulk points and runs it to a local station on a branch line in a truck, so did it plan to transfer lading between plane and car or truck.

Such coordinated service would give some 400 Santa Fe communities air freight service on the long haul—where it counts—while at the same time utilizing but 27 airports in the first phase of the program. Such "marginal" communities the established cargo and passenger air carriers shun because the traffic offerings are not worth the cost of landing nor of maintaining expensive, but indispensable, ground personnel. Santa

Fe, on the other hand, already serves the communities with its trains or trucks. It has station facilities, an agent, and handling machinery.

The extent to which such a gathering and distributing system would widen the market for all air carriers of freight—especially those connecting with the railroad-owned carrier—is very great.

Should it be decided later that a particular community be made a port of call for air service, the minimum of traffic justifying direct service would be far less if Santa Fe were providing the service than an independent air carrier alone. If airplane crews do their own loading and unloading, it is entirely practicable—as Skyway has demonstrated—to call for freight at a point at which no permanent ground personnel (of the air line) is stationed, other than the agent to handle billing, inspection of packaging and handling of the cargo to and from the airport which Santa Fe already has at the points its railroad serves.

### **Cuts Need for Subsidy**

Personnel of Santa Fe point out that the safety of the country requires a strong air arm. The provision of adequate air craft and adequate personnel to fly—and much more important—to *maintain* it is a vital part of the program. The load of taxation which this program imposes is greatly aggravated by the fact that civil air carriers spend so great a portion of the funds available to them on the establishment and maintenance of ground facilities not physically related to the maintenance of "air lift"—passenger stations, solicitation offices and staffs. The growing number of freight carriers eventually must go in for even greater development of ground facilities—warehouses, handling machinery, billing offices, etc.—all of which will constitute a drain on their resources and give rise to demands for more and more subsidy.

On the other hand, a freight air service linked to a strong and efficient railroad organization already existing and able to assimilate the ground operations relating to air carriage without much, if any, expansion, can concentrate its resources on the phases of its business of the greatest national interest—good flying and good equipment. In its application for rights, Santa Fe offered to provide the finest of service for freight and mail without government subsidy.

The C.A.B. itself has called attention to the fact that air transport must "broaden its financial base" if the country is to gain maximum service and safety. The Santa Fe has demonstrated the advantages of adequate capital by the excellence of its aircraft.

The pay-off of high-caliber equipment and men has been a body of well-satisfied customers. Santa Fe has been able to accept and load shipments of weights or dimensions which its competitors refused. Manufacturers of aircraft and parts themselves have used Skyway service extensively and have publicly referred to its excellence. Writes the magazine "U. S. Air Services" in a recent editorial: "The record for reliable performance has been outstanding, according to aircraft manufacturing patrons."

But, as Santa Fe points out, C.A.B. is more interested in who shall be allowed to give air service than the quality or cost of that service. So Santa Fe Skyway had to die.

# COAL-BURNING GAS-TURBINE LOCOMOTIVE

*Status of development work reviewed—Progress in securing superfine pulverization reported—Full-scale combustion work now under way at Fontana, Cal.\**

By JOHN I. YELLOTT, PETER R. BROADLEY, and CHARLES F. KOTTCAMP†

New locomotives are needed today by railroads all over the world. The selection of the most advantageous locomotive type for a given service is complicated by the fact that all fuels have risen in price since the war, and serious doubt exists that liquid fuels will continue to be available at prices competitive with raw coal. Neither the United States nor the rest of the world need be without liquid or gaseous fuels or lubricants, for methods of synthesizing virtually any hydrocarbon are now well known. This knowledge, however, leads to certain conclusions concerning the future prices of liquid fuels. We in this country will always have any fuel for which we are willing to pay, but the price of all petroleum-based fuels will approach closer and closer to that of gasoline at the refinery.

## Fuel Availability and Cost

The reason for this statement is relatively simple. Gasoline represents the largest single component of the demand for liquid fuels, and gasoline prices are established by the individual American automobile driver's ability to pay. To meet the almost insatiable demand for gasoline, the oil refineries have developed cracking processes which can convert increasing amounts of each barrel into distillate fuels, thus leaving less and less residual oil. Even that residue which is now left can be largely converted into gasoline by the process of adding more hydrogen to the hydrocarbon molecules.

Synthetic gasoline and Diesel oil can now be made from natural gas and from coal, but the plants required to produce these fuels in large quantities will be expensive, and they will require tremendous quantities of steel. It is this latter factor which puts at least one time limit on the rapidity with which synthetic fuels can be made available. Likewise, the cost of synthetic fuels from coal is certain to be substantially greater than that of an equivalent quantity of heat in the form of raw coal. The term "raw coal" is used because it is very likely that one of the developments of the synthetic fuel program will involve processing to remove the hydrogen-rich volatile components which can readily be used for synthesis, while the remaining carbon is burned in pulverized form.

The prices being paid in August, 1947, for coal and Diesel oil by a number of American railroads are

shown in the illustration. The common denominator, cents per million B.t.u., is also given, so that a comparison can be made between the values of coal and oil as sources of heat. Since most railroads do not pay freight for their own fuel, their coal costs approximated the price at the mine, which ranged between \$3 and \$5 per ton for railroads with on-line coal supplies. The value in terms of heat units at an average price of \$4 per ton is approximately 16 cents per million B.t.u. The price of Diesel oil varied from a low of 6.5 cents per gallon to a high of about 8.3 cents per gallon, giving an average price somewhat below 8 cents, and a cost of about 65 cents per million B.t.u.

If Diesel fuel follows the prediction given above, it is likely that it will continue to rise in price until it is almost as costly at the refinery as gasoline. This increase in the cost of Diesel oil reflects not only the effect of the immediate extremely large demand for distillate fuels, but also the growing uncertainty about the oil reserves of the United States. An elaborate discussion of this subject is out of place here, but it is agreed by most authorities that our reserves of coal are, for all practical purposes, inexhaustible, while at the present rate of consumption, the oil now known to be in the ground will be exhausted before two decades have passed.

These trends in the availability and cost of the two principal locomotive fuels give added importance to the program of the Locomotive Development Committee of Bituminous Coal Research, Inc. Since May of 1945, the committee has been vigorously pushing the development of the coal-burning gas turbine. Several statements on the work of the committee have already been presented, and this paper will serve as a brief report on the present status of the program.

## Coal Handling

The general principles of the coal-handling system are based on the assumption that the gas turbine must be able to burn any ordinary locomotive fuel without special wayside preparation. Drying, crushing, pressurizing, feeding and atomizing must all be accomplished as the fuel is needed. Preliminary size reduction and drying are accomplished as the coal is being fed from the bunker by the stoker. Waste hot air from the turbine exhaust is available in virtually unlimited quantities for circulating through the jacket around the stoker screw trough. Direct mixing of the hot air with the coal can be used if necessary, but this expedient will be used only for exceedingly wet coal, to eliminate the necessity of cleaning the drying

\* This paper was presented under the auspices of the Railroad Division at the annual meeting of the American Society of Mechanical Engineers held at Atlantic City, N. J., December 1-5, 1947.

† Mr. Yellott is director of research, and Messrs. Broadley and Kottcamp are assistant directors of research, Locomotive Development Committee, Bituminous Coal Research, Inc., Baltimore, Md.

air before it is vented. A magnetic pulley has been added to remove tramp iron before the coal enters the hammer mill, where it is reduced to minus eight mesh.

A mechanical elevator will carry the crushed coal to the inlet of the coal pump which transfers the fuel to the pressurized storage tank. Three types of coal pump are still under development, and the Standard Stoker Company has already built a double-acting piston type which can deliver 1,500 lb. of coal per hour against 150 lb. per sq. in. The supply of coal in the pressure tank is measured continuously by a level controller which starts and stops the stoker in response to the turbine's fuel requirements. The crusher, elevator, and coal pump will run continuously to avoid the necessity for equipment to start and stop them.

The feeding of coal to the turbine will be accomplished pneumatically, by delivering the crushed fuel from the tank at a fixed rate to a stream of air at 150 to 200 lb. per sq. in. The coal-air suspension passes from the feeder to a by-pass controller where the unneeded coal is returned to the tank. The coal required for combustion at any particular time passes on with the air through the atomizer to the combustors. Variation in coal quality can be overcome by changing the speed of the feed motor, thus varying the amount of coal fed at any setting of the by-pass controller.

### Pulverization

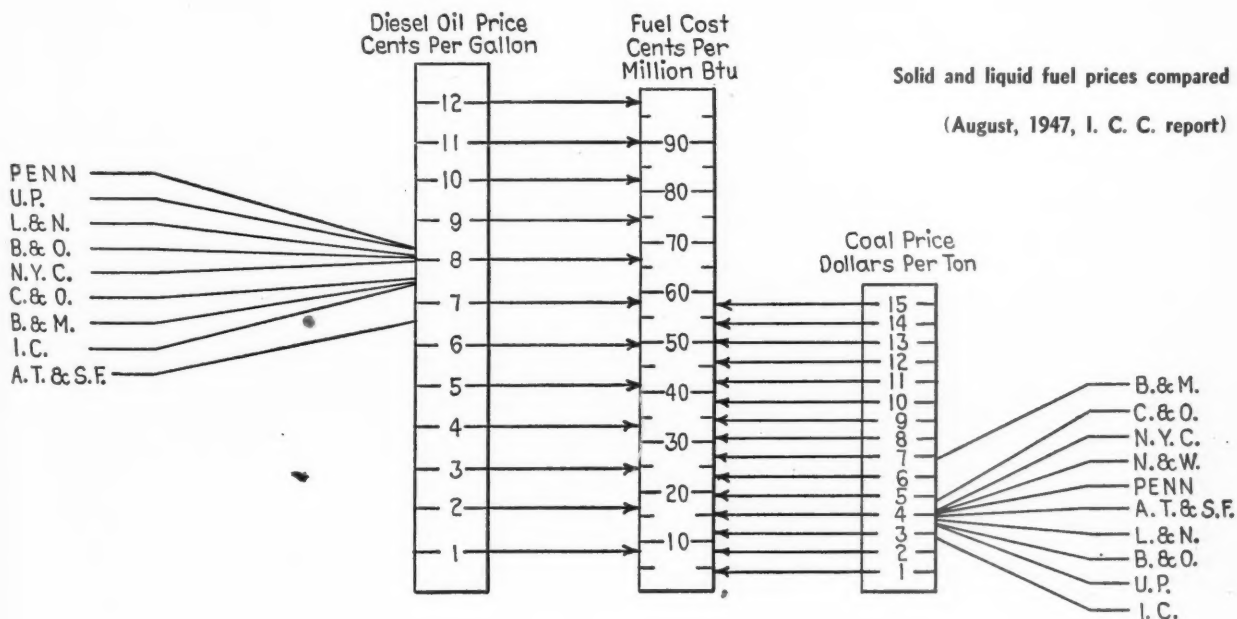
The coal-handling system is now being tested with full-scale equipment, following successful operation of small-scale apparatus at the Dunkirk, N. Y. pilot plant. Principal difficulties encountered thus far are primarily related to pressurizing the coal and feeding it at the exact rate required by a gas turbine combustor. Coal, crushed to minus eight mesh and subjected to 200 lb. per sq. in., compacts itself into a very dense mass, and feed screws will deliver it satisfactorily only if continuous vibration or agitation is maintained.

Exceedingly fine pulverization appears to be necessary for successful combustion in the very limited time available in the combustion space on a locomotive. The

air-operated coal atomizer has been developed for supplying coal to the burners of the gas turbine. Starting with the typical hammer-mill product which contains about 80 per cent plus 100 mesh, and 5 to 10 per cent minus 325 mesh, passage with compressed air through a convergent-divergent nozzle causes some pulverization to occur, primarily because of impact against the nozzle sides and collision among the particles. Addition of a target against which the fast-moving coal can impinge produces a product which begins to approach the output of commercial mills. Refinements in the nozzle design made after fundamental studies of the atomizer at Johns Hopkins University have resulted in a long nozzle, with a target directly in the line of flow, in which a pulverization of about 5 per cent of plus 100 and upwards of 80 per cent of minus 325 is produced with 1.35 lb. of air per lb. of coal and a pressure drop through the atomizer of 90 lb. per sq. in. Tests made at Dunkirk in 1946 showed that the atomizer could produce superfine material (0.5 per cent plus 100, 97.5 per cent minus 325) when enough air was used, (4 lb. per lb. of coal) at a top temperature of 400 deg. F. Most of the work done since those tests was directed towards reducing the air-coal ratio to a more economical value, and eliminating the need for heating the atomizing air. The major remaining problems in the jet atomizer are the proper pulverization of coal of very low grindability (below 50 Hardgrove) and the development of a simple means of varying the throat area to accommodate changes in load.

### Combustion

Full-scale work on combustion is now under way at Battelle Institute, at atmospheric pressure, and at the Northrop-Hendy Company's test site in the Kaiser Steel Works at Fontana, Cal. The gas turbine power plants will use two horizontal combustors, receiving their preheated air from the regenerator at 600 deg. to 700 deg. F, and discharging through a 180 deg. bend into the fly ash separator. The most successful combustors tried thus far have been very similar to





those used in the turbo-jets and ram-jets, where cooling air is admitted through slots, holes, and scoops. A detailed report on the combustion work at Battelle is being presented at this meeting by Messrs. Hazard and Buckley, who conducted the work done for the committee at Battelle Institute.\*

Small-scale combustors have been operated under both atmospheric and elevated pressures without encountering serious troubles from coke formation or slagging. Ignition is always accomplished with oil as a pilot flame, and, after the combustor has been heated up, the coal is turned on. Provision will be made on the locomotive to use oil as a standby fuel so that, in case of coal-handling trouble, the train can be brought in on oil. Train-heating steam will be provided by conventional boilers which will use the same oil supply. The locomotive will be started by the aid of a small Diesel-electric generator which will motorize one of the main generators for cranking the unit. Thus the oil which must be carried as a starting fuel will be used advantageously in a number of applications.

### **The Fly-Ash Problem**

The products of combustion from the coal burners will always contain fly ash, which should be removed as completely as possible to prevent damage to the blades from abrasion by the coarse ash particles. Tests at the Institute of Gas Technology showed that the removal of the larger components of the fly ash by the use of small mechanical separators rendered the combustion products virtually non-abrasive. Within the temperature range of the gas turbine, however, and at the velocities encountered in the turbine, there is evidence that the finer constituents of the fly ash will tend to adhere to the blades. The coating which was encountered in stationary test equipment was hard, smooth, and enamel-like, but it could be removed either by sand-blast or by chemical solution. Stress-rupture tests have shown that the coal ash coating is not harmful to the metal on which it is deposited. Maintenance of the coal-fired turbine is likely to consist of blade cleaning, rather than blade replacing.

The individual fly-ash separators, of the Aerotec design, will be mounted horizontally within a six-foot diameter steel shell. Stainless steel tubes and duct liners will be used, with internal insulation between the liners and the carbon-steel pressure shell. The major mechanical problems in the combustion and fly-ash separation system are those of thermal expansion. Adequate freedom must be given to the regenerator and to the turbine shell.

The fly ash will be removed from the separator by a slowly rotating worm which will discharge the ash through a simple crusher into an air line. The air will convey the ash through a pressure-reducing orifice to a storage tank, where the air will be vented through a series of small separators. The ash, cooled by mixing with relatively cold air, will be discharged at the locomotive's terminals. Tests of the fly-ash collection

system in small units indicate that the cleaned combustion products will comply with the standard smoke ordinances.

### **The Gas Turbines**

Gas turbines for the coal-burning power plant are now under construction by the Elliott Company and the Allis-Chalmers Company. The Elliott plant will use a two-stage centrifugal compressor delivering air at a maximum pressure of 55 lb. per sq. in., abs., through a regenerator to the combustion and fly-ash removal system. Maximum temperature at the turbine inlet will be 1,250 deg. F. A single, double-ended d.c. generator will be driven from the main shaft through a reduction gear. An alternator for supplying auxiliary power will be combined with the main generator, while d.c. auxiliary generators and exciters will be mounted above the main generator. The booster compressor, for supplying the atomizing air, will be driven by the generator shaft. Governing will be accomplished by both temperature and speed variation, to give good efficiency over a wide range of loads. The Elliott plant is very similar to that which will be installed in an oil-burning gas-turbine locomotive now being built for the Santa Fe by the Baldwin Locomotive Works.

The Allis-Chalmers unit consists of a 21-stage axial compressor discharging through a regenerator at a maximum pressure of 75 lb. per sq. in., abs., to the combustion and fly-ash separation system. The higher pressure will enable the fly-ash separator to be somewhat smaller than that for the Elliott unit. The Allis-Chalmers plant will use four 1,000-hp. d.c. generators, driven through a reduction gear. Auxiliary a.c. and d.c. generators, exciters, and booster compressor will be mounted above the generators and driven by auxiliary shafts from the main reduction gear.

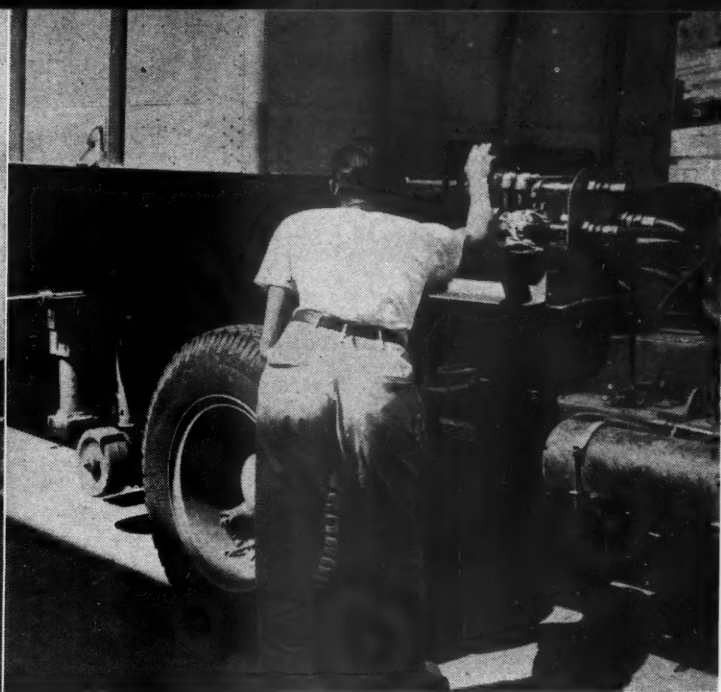
It is planned to conduct extensive tests on these turbines at the manufacturers' plants with both oil and coal firing, and to install them in locomotives as soon as satisfactory operation is obtained.

### **Experimental Locomotives**

Preliminary engineering is now being done on two experimental locomotives. The American Locomotive Company is designing a power unit to house the Allis-Chalmers plant, while the Baldwin Locomotive Works is concentrating on the Elliott unit. The two units will be used in each case, with operator's cabs provided at each end, so that the necessity for turning the locomotive will be eliminated. The ordinary designation of A and B units is not applicable, because the trucks on both units will be motorized, the center axle being idle in each case. Six-wheel trucks, identical to those now used on Diesel-electric locomotives, will be employed, so that interchangeability can be obtained, and maintenance facilities now available can be used with the new locomotives.

The coal-handling equipment, train-heat boilers, starting Diesel, and air-brake compressor will be contained in the auxiliary unit. Weight distribution is such that the axle loading will not exceed 60,000 lb. It is anticipated that the locomotives will be able to  
(Continued on page 54)

\* Experimental Combustion of Pulverized Coal at Atmospheric and Elevated Pressures, by H. R. Hazard, research engineer, fuels division, Battelle Memorial Institute, Columbus, Ohio, and F. D. Buckley, engineer, Locomotive Development Committee, Dunkirk, N. Y., presented under the auspices of the Fuels Division, at the annual meeting of the American Society of Mechanical Engineers, at Atlantic City, N. J., December 1-5, 1947.



## L. C. L. CONTAINERS IN EXPERIMENTAL SERVICE

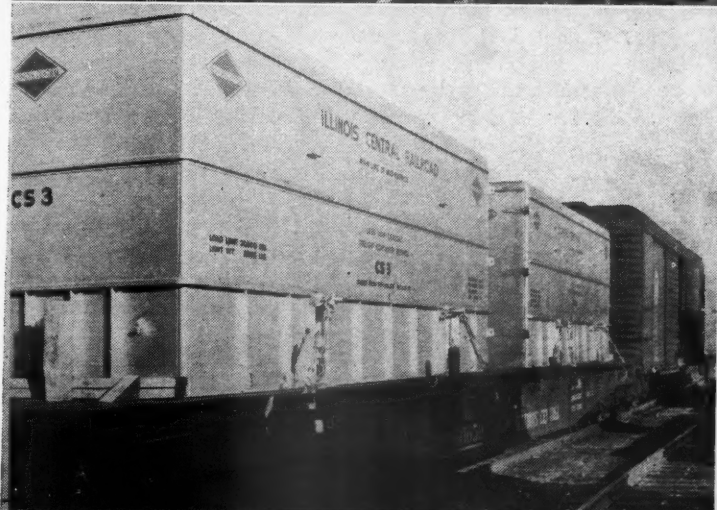
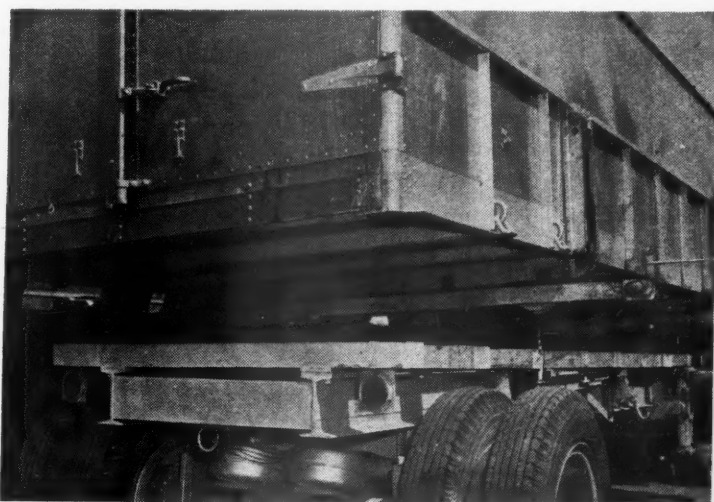
*Illinois Central begins Chicago-Memphis operation with truck-rail aluminum units*

**E**limination of intermediate handling, which should facilitate expeditious movement and contribute to the prevention of loss and damage, with consequent cost reduction and customer satisfaction, are expected to result from the use of new aluminum l.c.l. containers which may be readily transferred from truck-trailers to railroad flat cars by means of built-in mechanical equipment. The containers, which are known as "Trailerails" and are manufactured by the Reynolds Metals Company, Louisville, Ky., will commence regular operation on an experimental basis between Chicago and Memphis, Tenn., over the Illinois Central on February 2. Each "Trailerail" has a capacity of 20,000 lb. and two may be shipped on a single standard 46-ft. flat car.

### Operational Set-Up

To organize the experimental service, the Illinois Central traffic department has conducted preliminary surveys at Chicago and Memphis and set up arrangements with merchandise shippers at each city who ship in volume to the opposite destination. The "Trailerail," mounted on a special truck-trailer powered by a specially equipped tractor unit, will make pick-ups each afternoon, loading freight in the container according to delivery point at destination. The driver will receipt

for the freight and accept the shipping orders. When the pick-ups are accomplished, the container will be driven to a trackside location at the freight house, sealed, and mechanically shifted from the trailer to a  
(Continued on page 53)



Illustrations show—reading clockwise—(1) a loaded Reynolds container driven to track-side for transfer to a flat car, (2) the driver operating the hydraulic controls to effect the transfer, (3) the rams elevated on the side away from the freight car to permit the container to roll laterally on its two 5-wheel carriages and (4) the "Trailerails" secured to the stake pockets and ready for movement



# STOCKHOLDER QUESTIONS C. & O. ACTIVITIES

**Asks presidents of road and Federation for Railway Progress about Young influence, advertising, passenger service, and proposed tie-up with New York Central**

Questions regarding the extent to which Chesapeake & Ohio policies and activities are responsive to predilections of its chairman, Robert R. Young, the "proposed entanglement" of that road with the New York Central, its relationship to the Federation for Railway Progress, its partial withdrawal from the Association of American Railroads, the cost and accomplishments of its advertising, the age of its passenger equipment, and the modernity and financial results of its passenger service have been raised in letters sent to C. & O. President Robert J. Bowman and F. R. P. President William C. MacMillen, Jr., by George S. Jackson of 230 West End avenue, New York City, who said he was a C. & O. stockholder with "five times as much direct ownership interest" as Mr. Young. Copies of the letters were sent by Mr. Jackson to the Interstate Commerce Commission, and the commission has placed them in the correspondence file of the Finance Docket No. 14692 proceeding.

That case involves the pending petition of the C. & O. and Alleghany Corporation for release of the former's 400,000 shares of N. Y. C. stock from the requirement whereby it has been deposited with the Chase National Bank as independent voting trustee under the trusteeship created pursuant to the commission's June, 1945, decision approving Alleghany's control of the C. & O. Along with this petition, the commission has under consideration the related applications of Messrs. Young and Bowman for authority to serve on the N. Y. C. board of directors while continuing to hold C. & O. directorships and their present positions with that road. As noted in the *Railway Age* of December 13, 1947, page 64, Assistant Director C. E. Boles of the Commission's Bureau of Finance has recommended in a proposed report that the petition and applications be denied, and the commission is scheduled to hear oral argument on that report at Washington, D. C., on February 27.

## **Says C. & O. Has No Postwar Train**

The letter to Mr. Bowman was dated January 17, 1948, and it referred at the outset to A.A.R. President William T. Faricy's recent reply to what Mr. Jackson called "the C. & O. board chairman's repeated misleading statements on the railroad industry's passenger equipment and service." Stating that Mr. Faricy had asserted that the C. & O. "lagged the rest of the industry in this respect," Mr. Jackson, "as a C. & O. stockholder," asked President Bowman 10 questions regarding C. & O. orders for new passenger cars and the age of its present passenger equipment.

The questions asked how many new passenger-train cars of various types (coaches, Pullmans, diners, and

baggage cars) the C. & O. had ordered, and when the orders were placed. They went on to inquire as to when, on the basis of "the most recent delivery promises," the C. & O. expected "to put its first modern postwar passenger coach and/or Pullman train in operation." In the letter to F. R. P. President MacMillen, which was dated December 11, 1947, Mr. Jackson had asserted that the C. & O. "is virtually the only significant railroad which has not yet introduced a modern postwar train." The other questions in the letter to Mr. Bowman were concerned with the age of present C. & O. passenger equipment. They asked how many of its coaches were in the following age groups, as measured by dates of their delivery to the C. & O.: 5 years or less; 5 to 10 years; 10 to 15 years; 15 to 20 years; and over 20 years.

Mr. Jackson then turned to the question of C. & O. advertising, saying he assumed that Mr. Bowman would answer "my inquiries of December 26, 1947," regarding that and "several other C. & O. affairs." Pending receipt "of your more accurate figures," as he put it, Mr. Jackson told Mr. Bowman that he had estimated the C. & O.'s total 1947 advertising cost to be about \$800,000.

"None of this advertising," he added, "spoke a word about the advantages, if any, of traveling on the C. & O. or even invited the public to patronize the C. & O. services. What, therefore, has this accomplished for the C. & O. with respect to increasing its total of passengers carried and the average mileage of transportation purchased by each passenger in 1947 compared to 1946 or to the average of the C. & O.'s best five prewar years? What has this advertising accomplished toward improving C. & O. equipment and services to its patrons? Since the C. & O. management was aware that the major railroads had placed orders for modern passenger equipment as soon as the war was over in 1945, and since C. & O. knows also that the railroads were putting this equipment into operation as soon as the manufacturers delivered it, what has this huge expenditure of C. & O. stockholders' money accomplished toward improving equipment and service in the industry at large?"

## **Sees Through-Service "Outcry" Timed**

*Railway Age* and other magazines, and statements by the president of the N. Y. C., Mr. Jackson continued, had pointed out that "the most significant new service wrinkles, for which the C. & O. board chairman claimed credit, were being studied by the industry, as C. & O. must have known from its affiliation" with the A.A.R. As an example, Mr. Jackson mentioned the through service at Chicago and St. Louis, Mo.,



which, he said, was delayed on account of the war. "Mr. Young," he added, "timed his outcry exactly to precede the actual introduction of this service after the war, but has not yet done anything to introduce through services for C. & O. coach patrons, as the Atlantic Coast Line, Seaboard, Southern and other railroads have done at the Washington, D. C., gateway to New York."

Referring to a C. & O. radio broadcast which "criticized the railroad industry for not yet having introduced more modern passenger equipment for commuter service," Mr. Jackson asked what the C. & O. has done or plans to do in that connection. As he read that road's annual report for 1946, it spoke of plans to modernize "only its main-line through-train equipment." Thus Mr. Jackson wanted to know why the C. & O. considered it more important "to modernize commuter equipment on other roads than on its own lines"; and, "in any event," he also asked, "how would modernized commuter equipment on other roads benefit the C. & O. commuter and stockholder?"

Mr. Jackson next suggested that if Mr. Bowman would examine the history of the C. & O.'s "famous constructive 'Chessie' advertising campaign during the early Thirties," the C. & O. president would find that after about two years' heavy expenditure, the C. & O.'s gross passenger revenue and number of passengers carried "declined drastically." That situation prompted Mr. Jackson to ask Mr. Bowman this question: "If a constructive advertising campaign couldn't help C. & O., by what strange logic do you expect to help the C. & O. by an advertising campaign denouncing the entire railroad industry?"

### **Calls Reservation Bureau Costly**

This brought the inquiring stockholder to his criticism of the central reservation bureau which the C. & O. plans to establish this month at Huntington, W. Va. "This," Mr. Jackson said, "looks like another indulgence to satisfy Mr. Young's expensive ego at the expense of the C. & O. stockholders. It indicates a reckless disregard for the stockholders' interests. An analysis of the probable method of operation of this bureau fails to reveal any significant public advantage."

Mr. Jackson's analysis of the bureau set-up included estimates that it will be a 16-hour-per-day operation, requiring 5,000 miles of leased telephone lines and other communications arrangements. He further estimated that its cost of installation will be \$100,000, and that the annual operating expense will be \$400,000. And he went on to calculate that the average cost per passenger using the reservation service would be \$2, or 20 per cent of the C. & O.'s average revenue of \$10 from each such passenger.

Noting that such a 20 per cent service cost would exceed the increase in passenger rates recently authorized by the I.C.C., Mr. Jackson asserted that the C. & O. "will not gain any offsetting cost advantages because it must continue to maintain its ticket sales and reservation services at the cities involved and will continue to pay directly or indirectly its pro-rata share of passenger ticket sales service costs at jointly-operated or off-line terminals." He also wanted to know if anyone prepared an analysis of the prospective cost of the bureau, if the C. & O. board of directors

were consulted and approved the installation, and, if not, "on whose specific orders was it undertaken?"

Figures presented by Mr. Jackson on the financial results of C. & O. passenger operations indicated that a loss of \$5,436,000 in 1936, "the year before the present board chairman took over," was "increased 42 per cent to \$7,810,000 in 1946 after a 10-year dose of the board chairman's executive magic." Mr. Jackson calculated that the C. & O.'s loss on passenger operations during the 1936-1946 period was equivalent to a loss of 56 cents per share of its common stock per year. He asserted further that during the same period, the N. Y. C. "converted an \$8,230,000 passenger business loss in 1936 to a \$1,250,000 profit in 1946," its passenger net for the 1936-1946 period having been equivalent to a profit of 48 cents per share of its common stock per year.

### **Says C. & O. Needs N. Y. C. "Magic"**

"It seems, therefore," Mr. Jackson told Mr. Bowman, "that instead of trying to force C. & O.'s managerial magic into the New York Central, C. & O. might profit from acquiring some of N. Y. C.'s managerial magic. N. Y. C.'s announcement of its actual accomplishment to date in passenger equipment modernization should have impressed C. & O. management."

On the matter of C. & O. relationships with the F.R.P., Mr. Jackson said that Mr. Bowman's "letters of May 23 and December 10, 1947," had stated that certain C. & O. personnel, "who are or have been serving the Federation for Railway Progress were not receiving any remuneration for such services from the federation." The C. & O. personnel Mr. Jackson there had in mind were the following: C. R. Hook, Jr., vice-president; J. J. Anzalone, assistant vice-president; R. S. Marshall, senior vice-president; and T. J. Deegan, Jr., director of public relations. Mr. Jackson also told Mr. Bowman that he [Mr. Bowman] had stated that he was unaware of what the federation was paying President MacMillen and its secretary, L. Goddard, in addition to what they received from the C. & O. for "part-time research services."

With respect to the latter, the inquiring C. & O. stockholder went on to tell Mr. Bowman that the F.R.P. by-laws provided for the fixing of officer salaries by the executive council of which the C. & O. president is a member. "I have a right to expect C. & O. management to be candid with its stockholders," Mr. Jackson added, "I request, therefore, that you inform me what total salaries are paid to each, Messrs. MacMillen and Goddard; how these salary payments are split among C. & O. and/or C. & O. affiliates or subsidiaries. . . . What provision has been made to insure that Messrs. MacMillen and Goddard give the C. & O. its full *pro rata* share of their time?"

### **Mr. Young's Ownership Interest**

Arguing that a C. & O. stockholder, such as himself, was within his rights in seeking the information he was after, Mr. Jackson assured Mr. Bowman that his remarks "are not intended to be personal," because "I am aware of your excellent past performance as a railroad operating executive." Mr. Jackson asserted that "the C. & O. board chairman who dominates the

C. & O. management has only three-hundredths of one per cent indirect ownership interest in C. & O." He added: "Written inquiries and personal interviews with C. & O. management representatives have so far been unproductive of facts or intelligent enlightenment. If I am in error on any material facts or conclusions, you should have no hesitancy in presenting in writing the correct information and reasonably plausible evidence to justify management's conduct. If I am substantially correct, then management should take immediately the necessary action to stop wasting C. & O.'s earnings and assets."

Mr. Jackson's December 11, 1947, letter to F.R.P. President MacMillen occupied 11 typed sheets. Referring to the November, 1947, issue of the F.R.P. magazine, *Railway Progress*, Mr. Jackson said it contained an article in which Mr. Young, as chairman of the federation, suggested that railroad-stockholder members, "interested in giving their managements a shaking up," might well communicate with Mr. MacMillen "as to ways and means."

Because that statement, so he said, led him to expect "original and effective suggestions" from the F.R.P. president, Mr. Jackson wrote to Mr. MacMillen a November 17, 1947, letter, asking, as the present letter put it, "your advice on how to compel" the C. & O. management "to stop several specific abuses which hurt stockholders and the public." Mr. Jackson added that, since the chairman of F.R.P. is also chairman of the C. & O. and C. & O. President Bowman is a member of F.R.P.'s executive council, he had hoped that the federation's "proposals for management reformation" would be applied to the C. & O.

### **Gets "Vague or Evasive" Responses**

The inquiring stockholder professed to have experienced a "let-down feeling" when Mr. MacMillen advised him in a November 25, 1947, letter that one of the best ways for a stockholder to correct management abuses was to communicate directly with the management. As Mr. Jackson quoted him further, Mr. MacMillen added an expression of his view that a complaining stockholder should have a "just complaint," be willing to listen to "reasonable explanations on the part of management," and be willing "to cooperate when cooperation is indicated." Mr. Jackson's comment on this was that he had written to and been "interviewed by" C. & O. officers "several times during the past two years," and their responses "have been vague or evasive, or they completely ignored the questions."

The remainder of his letter, as Mr. Jackson described it, repeated and "documented in detail" his questions about "several additional" acts of the C. & O. and the federation. Here the letter inquired as to salaries of F.R.P. officers. In that connection, Mr. Jackson said that letters he had received from Mr. Bowman had informed him that the C. & O. paid Mr. MacMillen and F.R.P. Secretary Goddard annual salaries of \$3,900 and \$3,120, respectively, for part-time service.

Mr. Jackson went on to say that a detailed check of Mr. MacMillen's activities indicated that the F.R.P. president could not be giving the C. & O. more than about 10 per cent of his time. "This," he went on to tell Mr. MacMillen, "is at an annual rate of about \$35,000,

much more than the C. & O. pays most of its officers and highly experienced key men who give it full-time service. . . . The same general comments apply to Mr. Goddard."

### **On F. R. P. Headquarters**

The inquiring stockholder also complained that he had received from official C. & O. and F.R.P. sources contradictory information as to the federation's place of business, such information indicating that it had "its own exclusive quarters in Cleveland," and that it "would have its headquarters in New York." The "available evidence" indicated to Mr. Jackson that "its chairman and its principal officers and employees are conducting the federation's business from the C. & O. offices in the Chrysler Building in New York."

In this letter to Mr. MacMillen, Mr. Jackson discussed C. & O. advertising in greater detail than he did in his letter to Mr. Bowman. Timetables examined by Mr. Jackson convinced him that the C. & O.'s fastest passenger trains "are from 2 to 7 hours slower than those of its competitors." He added: "For instance on the Washington-Cincinnati run, the C. & O.'s time is over 16 hours, whereas the B. & O. time is less than 13 hours. B. & O.'s train is a modern postwar job. C. & O.'s train is like a 'Toonerville' trolley by comparison."

Of C. & O. freight-train service, Mr. Jackson said that it "is likewise poorer than that of other railroads." He went on to say that Colonel J. Monroe Johnson, director of the O.D.T., "refuted C. & O.'s misleading advertisements on this point by citing accurate data," which "proved that the average speed of C. & O. freight trains was slower than the national average and slower than that of the Norfolk & Western, a coal-carrying road operating in C. & O. territory." Assailing the C. & O. advertisement that attributed the shortage of freight cars "to the relatively slower speeds of some railroad freight trains compared to others," Mr. Jackson asked Mr. MacMillen if the F.R.P. advisory council had ever conducted a study of the matter, as had been claimed, Mr. Jackson said, by Mr. Young, but not mentioned in the advertisements.

### **Unusual Advertising Approach**

"No advertiser," Mr. Jackson went on, "has ever sought to win converts to his product or services by attacking all the products in that industry. Yet that is what C. & O., under the guidance of Mr. Robert R. Young, has been doing for two years. The federation is doing the same thing by means of another approach. One can't develop a sympathetic attitude toward or confidence in the railroad industry among government bodies, the public and the investor by a continuous barrage of depreciation and denunciation that disregards virtually every favorable or mitigating element."

At this point Mr. Jackson referred to a *Railway Age* editorial (see issue of April 12, 1947, page 733) which commented on an early issue of *Railway Progress*. As he summarized the editorial for Mr. MacMillen, it "said that the federation's magazine left the reader with doubts as to whether the federation might not have as its purpose the public chastisement of the railroad industry, rather than the encouragement of

constructive policies within and toward railroads." Subsequent issues of *Railway Progress*, Mr. Jackson added, "have left no doubt that the federation's course is to persecute rather than to give constructive encouragement."

With respect to the C. & O.'s relationship to the A.A.R., Mr. Jackson complained that Mr. Young had made "public announcement" that the road had withdrawn from the association when "the truth is that the C. & O. is still a member of the A.A.R., and as such is a party to its activities and pleadings before government agencies." If the A.A.R. is "the big, bad wolf that the federation claims, why doesn't Mr. Young withdraw his railroads from it?" Mr. Jackson asked Mr. MacMillen.

### "Banker Influence"

Referring to how F.R.P. and Mr. Young, as Mr. Jackson put it, "frequently howl over the financial representation on railroad directorates," the letter compared the C. & O. and New York, New Haven & Hartford boards. The C. & O. board, Mr. Jackson said, has "less than half" as much "experienced railroad talent" as the New Haven board. And he found on the C. & O. board "more than twice as much banker

representation," and "nearly five times as much broker, speculator and holding company representation." Mr. Jackson also calculated that "the banker and speculative groups combined have a majority (58 per cent) representation on the C. & O., whereas the banker, broker and insurance company total representation is in the minority (37 per cent) on the New Haven."

Inquiring about the "Federation Make-Up," Mr. Jackson asked Mr. MacMillen if the decision not to incorporate were based on a desire "to avoid legal restraints, controls and accountability." The F.R.P. constitution and by-laws governing the selection of officers and the operations make it a "totalitarian masterpiece," Mr. Jackson continued. As an F.R.P. member, he also said, he had requested a list of members to enable him to campaign for nomination and election to the presidency.

"My request," he told Mr. MacMillen, "was refused and your counter proposal had the effect of keeping me from reaching the membership at this time. It is obvious that the present Young-appointed officers who make up the nominating committee will nominate themselves and, as in all totalitarian states, the membership will not be given an opposition slate. With your clever constitution you can elect yourselves by just voting for yourselves even if no one else votes."

## L. C. L. CONTAINERS IN EXPERIMENTAL SERVICE

(Continued from page 49)

flat car. The containers are to be handled on fast merchandise trains MS-1 southbound or NC-2 northbound for first-day arrival and second-morning delivery at destination, where transfer to a trailer through the self-contained mechanism will be accomplished. Delivery, of course, will be made direct from the container to the consignee, the freight having moved from shipper to receiver without any intermediate handling whatever.

Initially, twelve "Trailerail" containers and two

tractor and trailer units will be used in the service. If individual shippers offer freight in sufficient volume, empty containers can be delivered direct to their platforms. If the shipper cannot provide platform space (to which the unit may be shifted by its mechanical devices), the railroad will furnish steel parking stands. The shipper will then load the container by delivery point at destination, seal the container and request pick-up. In such cases shipments will be billed "shipper's load and count."

As described briefly in *Railway Age* of September 6, 1947, the new Reynolds container unit has an inside length, width and height of 19 ft. 11½ in., 7 ft. 1¾ in. and 7 ft. ⅝ in., respectively. The door opening is 79 in. wide and 78¾ in. high. The light weight of the

### General Specifications

Part Name	Description
Exterior sheets, structural members and castings	Reynolds aluminum alloys
Flooring	1½ in. net thickness oak or ash
Plywood lining	¾ in. thick Douglas fir or equivalent
Under carriage wheels	Service Caster & Truck Co.
Carriage wheel axles	1 in. diameter stainless steel
Ram connecting pins	1 in. diameter stainless steel
Under carriage frames	Structural steel channels
Hydraulic rams and pumps	Blackhawk Manufacturing Company
Hydraulic lines	¾ in. O. D. stainless steel or equivalent
Hydraulic flexible hose assemblies and fittings	Parker Appliance Company
Door lock	Eberhard Manufacturing Company No. 5626
Hinges, rub rails and doors	Reynolds Metals Company design
Hydraulic oil	Texaco regal oil or equivalent
Hydraulic line pressure	4,000 to 5,000 lb. per sq. in.
<b>Trailer</b>	
Chassis	Reynolds metals design (structural steel)
Landing gear	Trailmobile heavy duty or equivalent
Wheels	Dayton R 6509 or equivalent
Axle	Schuler No. 18 A 5076 or equivalent
Brakes	Vacuum operated
Hydraulic fittings	Weatherhead Company

Part Name	Description
Hydraulic rams	Hannafin Mfg. Co. 4 in. bore by 14 in. stroke
Hydraulic tubing	Bundy tubing ½ in. O. D. by .049 wall
Hydraulic valves	Vickers, Inc.
Hydraulic coupling fittings	Aeroquip Corp. self-sealing couplings
Stabilizers, transfer tracks, chock blocks and hold-down toggle clamps	Reynolds Metals design
Spring suspension	"Rock-O-Coil" series 500
Tires	Goodyear 8.25 in. by 20 in. or equivalent
Hydraulic line pressure	1,000 lb. per sq. in.
<b>Tractor</b>	
International K-7 or equivalent	KBS-7L Chassis & cab or equivalent
Power take-off	134 in. wheelbase, two-speed rear axle
Fluid motor	Tulsa Winch Corp. — for International K-7
Winch	Vickers, Inc., Model MF-38-2 or equivalent
Cable	Tulsa Winch Corp. Model No. 12
Gear reduction	¼ in. diameter hemp-center wire rope
Fluid motor valve and pump	Reynolds Metals design
Fifth wheel	Vickers, Inc., Model C-2320 RDE
	Trailmobile 36-in. Model FW-19-1-10



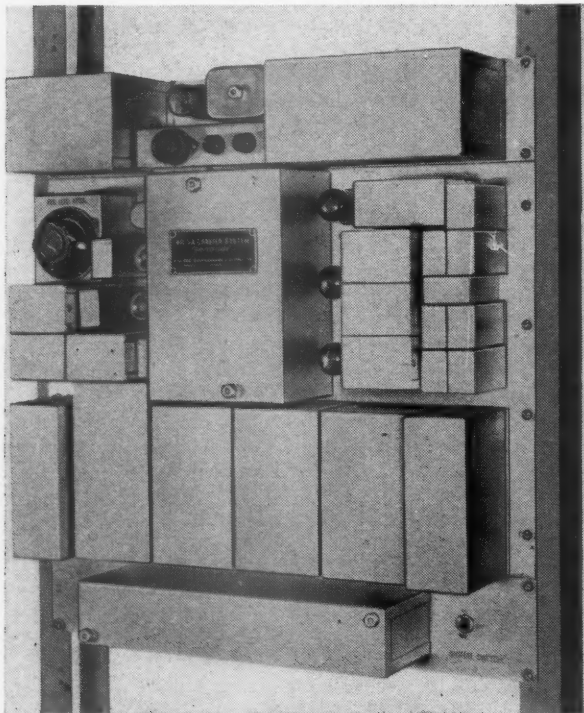
unit is 3,550 lb., while its capacity is 20,000 lb. or 1,005 cu. ft.

Two sets of hydraulic systems, one hand operated and built into the container itself, and the other on the truck trailer, powered by a power take-off-driven pump on the tractor, make possible speedy transfer from trailer to freight car. One man can accomplish the transfer from controls on the tractor. The hydraulic system in the container is used to extend two 5-wheel carriages below the plane of the bottom of the container unit so that it can be easily moved laterally from the trailer to a flat car or platform, or vice versa. Hydraulic rams on the trailer elevate the container tracks on the trailer bed to the level of the flat car.

## SHORT-RANGE CARRIER

The Kellogg Switchboard & Supply Co., 6650 South Cicero avenue, Chicago 38, has announced production of a new single-channel, short-haul carrier communication system. Designated as the No. 5-A, the system provides facilities for superimposing an additional telephone circuit on existing two-wire, voice-frequency line circuits. The maximum range of operation over open-wire lines is said to vary from 19 mi. to 225 mi., depending upon the type of wire in use and other line conditions.

Since carrier operates on frequencies above the ordinary voice range of 300 to 3,000 cycles used on telephone circuits, there is no interference between simultaneous conversations over the carrier and voice circuits. The capacity of the wire circuit is thus



Front oblique view of No. 5-A carrier terminal equipment mounted on rack

The rams may be adjusted to compensate for irregularities in the ground level. By raising the two rams on the side away from the freight car, the container rolls into position with ease.

To transfer a loaded container from a flat car to a trailer, a winch on the tractor chassis and a hinged sheave block, which can be swung out and locked into a position at 90 deg. in relation to the length of the trailer, are used. When the container is empty, it can be transferred manually through its self-contained, hand-operated hydraulic system. While loaded, and in transit on either a flat car or trailer, the container rests on its own base, relieving the hydraulic system of any load.

doubled without the installation of additional line wires. A second carrier channel, according to the manufacturer, can easily be added to the system if required, and equipment for doing this is expected to be ready for delivery about the middle of this year.

## COAL-BURNING GAS-TURBINE LOCOMOTIVE

(Continued from page 48)

carry from 17 to 20 tons of coal, approximately 4,000 gallons of water for the train-heat boilers, and about 1,500 gallons of Diesel oil. Full-load fuel consumption will be in the vicinity of one pound of 13,000-B.t.u. coal per rail hp.-hr.

The Baldwin-Elliott locomotive is conservatively rated at 3,750 turbine shaft horsepower, with a maximum speed of 100 miles an hour. The Alco-Allis unit has the same nominal rating, but the turbine power is likely to exceed 4,000 hp. Present plans call for the design of the power unit to be carried as far as necessary to enable the turbines to be completed at the earliest possible moment. When coal firing tests at the turbine builders' plants have progressed to an appropriate point, the designing of the locomotives will be completed, and they will be constructed as rapidly as possible. It is hoped that at least one unit can be on test during 1948.



The "Friendship Train" as it pulled out of Pittsburgh recently on the last leg of its journey from the Pacific coast to New York

# GENERAL NEWS

## I. C. C. Summarizes 1946 Accident Data

**Passenger deaths down from 1945,  
but fatality rate increased**

Railroad accidents of all kinds during the calendar year 1946 resulted in 4,362 deaths, a decrease of 7.01 per cent under the 1945 total of 4,691, and passenger fatalities decreased 17.48 per cent, from 143 in 1945 to 118 in 1946, when the number of passenger-miles was 29.46 per cent less than in the previous year, according to Accident Bulletin No. 115, which has been released by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The overall volume of traffic was 8.38 per cent less in 1946 than in the previous year, as measured in train-miles, resulting in a fatality rate for 1946 of 4.20 persons per million train-miles, an 0.06 per cent increase over the 1945 rate of 4.14.

**Fewer Injuries**—A decrease of 15.41 per cent in the number of non-fatal injuries to all persons was reported in 1946, as compared with the previous year, the respective totals being 52,007 and 61,481. The 1946 figure is the lowest since 1942, when 48,108 non-fatal injuries occurred. The frequency rate for non-fatal injuries likewise showed some decrease in 1946 as compared to 1945, the figures being 50.1 and 54.2 persons per million train-miles, respectively. The number of non-fatal injuries to passengers also decreased from 5,827 in 1945 to 5,676 in 1946, but here the frequency rate was up from 63.4 to 87.6 persons per billion train-miles.

The latter was also true of the passenger-fatality rate, which was 1.82 per billion passenger-miles in 1946, as compared with 1.56 in 1945. The 1946 total of 118 passenger fatalities compares with 143 in 1945 and a high of 265 in 1943. Passenger-miles in 1946 totaled an estimated 64,776 million, as compared with 91,826 million in 1945.

Of the 118 passenger fatalities reported for 1946, 65 resulted from train accidents, and the bulletin comments that 92 per cent of the latter resulted from the following accidents (the year, in each case being, of course, 1946): A collision April 25 on the Chicago, Burlington & Quincy; a derailment September 26 on the Union Pacific; a derailment on the Pennsylvania December 13; and a derailment on the Seaboard Air Line January 2.

**Improved Employee Record**—Data on

casualties to employees show that 672 were killed and 38,325 injured in accidents of all kinds in 1946. These figures represent a decrease of 24.66 per cent under the 892 fatalities reported in 1945 and a decline of 18.95 per cent under the 47,285 non-fatal injuries for that year. The 1946 fatality figure is the lowest since 1940, when 533 employees were killed, while the 1946 non-fatal-injuries total is the lowest since 1942, when 35,208 employees were injured. The report also points out that the number of employees killed per million man-hours worked in 1946 was 0.194, as compared with 0.235 in 1945, and the lowest rate in the 1937-46 period. A total of 3,459 million man-hours was worked in 1946, as compared with 3,799 million in 1945. The frequency rate for non-fatal injuries to employees per million man-hours also decreased from 12.45 in 1945 to 11.08 in 1946, the lowest since the 1942 figure of 10.60.

With respect to injuries to employees, the bulletin makes the usual estimate of the monetary loss involved, on the basis of \$8 per day per man. It calculates that 1,378,995 days were lost in 1946 as a result of non-fatal injuries to employees, and the resulting loss is put at \$11,031,960. At the same rate of pay, the equivalent figure for 1945 was \$12,937,856.

The bulletin also discloses that casualties among trespassers increased from 1,537 in 1945 to 1,542 in 1946, while the non-fatal injuries to such persons amounted to 1,161 in 1946, three less than in the previous year. Trespasser fatalities per million motive-power miles (locomotive-miles and motor train-miles) were 0.96 in 1946 as compared with 0.88 in 1945, while the injury rate on the same basis was 0.72 in 1946, as compared with 0.66 in 1945.

**Crossing Accidents** — A downward trend in the number of rail-highway grade-crossing accidents occurred in 1946, when 4,001 were reported, as compared with 4,100 in 1945. The total number of persons killed and injured also decreased from 1,903 killed in 1945 to 1,851 in 1946 and from 4,446 injured in 1945 to 4,397 the following year. At the same time, there was a reduction in the number of pedestrians killed and injured at crossings, the total for 1946 being 232 killed and 110 injured, as compared with 259 killed and 157 injured in 1945.

Passenger automobiles were involved in 64.98 per cent of the total number of grade-crossing accidents in 1946, as compared with 63.17 per cent in

1945. For 1941, the last prewar year, the comparable figure was 70.25 per cent. Motor trucks were involved in 891 accidents with trains in 1946, as compared with 895 in 1945 and 822 in 1944.

In 1946, there were 21 employees on duty on trains killed as a result of accidents at highway grade-crossings and 95 employees and 25 passengers injured. The comparable 1945 figures were, respectively, 21 killed, and 167 and 143 injured. Also, three passengers were killed in the 1945 crossing accidents. Damage to railway property as a result of train accidents at highway grade crossings (not including damage less than \$150 in any accident) totaled \$554,644 in 1946, as compared with \$699,668 in 1945 and \$382,565 in 1944.

Discussing train accidents (that is, those resulting from train operation in which railroad property damage exceeding \$10 occurred), the bulletin points out that the number of per million motive-power units (locomotive-miles plus motor train-miles) decreased from 1,754 million in 1945 to 1,609 million in 1946. The rates in recent years were 9.67 in 1946, 9.63 in 1945, and 8.94 in 1944, as compared with a low of 4.82 in 1938. There were 15,556 train accidents in 1946, compared with 16,892 in 1945 and 16,258 in 1944. The 1946 total includes 8,497 derailments, 4,334 collisions and 25 locomotive boiler accidents.

## Kendall Report Hails '47 Loading Record

**C. S. D. chairman also lauds increase  
in freight car production program**

The railroads originated 44,503,349 carloads of revenue freight in 1947—the greatest volume since 1930 when the loadings were 45,877,974 cars—and last year's traffic, measured in revenue car loadings, was 7.6 per cent above 1946 and 2.5 per cent above the wartime peak of 1944, it is reported by Warren C. Kendall, chairman of the Car Service Division of the Association of American Railroads, in his latest monthly review of the "National Transportation Situation." At the same time, Mr. Kendall, noting that the 1947 records were established with 535,000 less freight cars than in 1929 and with 47,385 less than the ownership during World War II, predicted that the production of 10,-



000 or more freight cars per month should result in a "substantial increase" in the serviceable car ownership by the time of the 1948 fall peak loadings.

According to Mr. Kendall, 1947 freight traffic, measured in tons of freight hauled one mile, was 647 billion revenue ton-miles, an increase of 45 per cent above that of 1929 (the record year prior to World War II), and only 12 per cent below the peak of wartime traffic. He also reported that the average load of freight per train was 1,148 tons in 1947, or 35 per cent higher than in any previous peacetime year, and that the average freight train in 1947 turned out 18,163 net ton-miles of transportation service for each hour it was on the road, an increase of 71 per cent over 1929.

"The entire transportation record was noteworthy, particularly so in view of the heavy load and many adverse factors occurring during the year," Mr. Kendall remarked. "All shippers, consignees and carriers should be highly gratified by the year's accomplishments made possible by continuing teamwork of all concerned."

**Equipment Prospects**—Turning to the equipment situation, Mr. Kendall said that 1948 opens on a "hopeful note" as to prospects for an improved supply of freight cars and locomotives, adding that there are "conservative reasons" for "considerable optimism" as to more favorable car supply conditions this year. Commenting on the latest available statistics pertaining to the number of freight cars installed, retired and on order (see *Railway Age* of January 24, page 57), Mr. Kendall observed that while the 119,786 cars on order January 1 by all railroads and car lines was slightly below the peak of 126,213 reached last November 1, it is still approximately a year's run on the basis of 10,000 cars monthly. It is anticipated, he added, that additional orders will be placed as rapidly as necessary to keep a substantial backlog of cars on order.

"For the past seven years, the demands of traffic have required the maintenance in service of every practicable unit of car supply," he continued, noting that total retirements in 1947 were 3.9 per cent of the ownership at the beginning of the year, as compared with 3.3 per cent in 1946, 3.88 per cent in 1940 and 4.44 per cent in 1929. "Manifestly, under more favorable car supply conditions, many of these cars would have been retired, and now that the tide appears to have turned and new car production has begun to exceed retirements, it may be anticipated that the percentage of ownership to be retired in 1948 will somewhat exceed those of the recent past. Four per cent retirements in 1948 would total 72,700 cars; 4.5 per cent, 81,800."

**Hoppers Still Short**—In a summation of the present car supply, the report disclosed that (1) despite a net gain of approximately 10,000 hopper cars in railroad ownership during 1947, there were "some shortages" at coal mines during the weeks ended January 10

and 17; (2) hopper car usage for commodities other than coal is now at a minimum because of seasonal curtailments of movements of ore and road building materials; (3) the demands for gondola cars are heavier now than at the same time last year, due to a high level of production at steel mills; (4) flat car demand and supply are about in balance, with some tightness reported in the Mid-west; (5) the supply of auto device and parts cars is sufficient to protect satisfactorily the current requirements; and (6) because the supply of

(Continued on page 83)

### Third Rail-Transport Institute Planned by American University

The third annual Rail Transportation Institute conducted by the American University, Washington, D. C., in cooperation with the Association of American Railroads, will be held in Washington from March 2 to 31. Dr. L. M. Homberger, professor of transportation at the university, will again direct the institute which will follow a program similar to those of its two predecessors.

Thus the full-day curriculum, as the announcement put it, "will present an overall view of the nation's rail transportation system, and will broaden the student's understanding by relating the activities of individual departments in the industry to a pattern of efficient transportation service." The faculty will include representatives of government departments and national organizations, railroad executives and other specialists in various phases of railroading. Courses will cover current problems in connection with railroad organization, personnel, public relations, operation, traffic, finance, economics and statistics, maintenance of way and equipment, and new technical developments. There will also be lectures on current problems confronting other agencies of transportation, and field studies of rail, water and air transport facilities in the Washington-Baltimore area.

### EMERGENCY BOARD WILL HEAR CASE OF HOLDOUT UNIONS

President Truman on January 27 issued an Executive Order creating an emergency board to investigate the dispute between the railroads and the three "holdout" operating unions which had set February 1 as the date for a strike of their members. The unions are the Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen & Enginemen, and the Switchmen's Union of North America.

As noted in the *Railway Age* of January 24, page 58, the dispute arose out of the refusal of the three unions to settle their wage and rules demands on the basis agreed to last November by the other two operating unions—the Order of Railway Conductors and the Brotherhood of Railway Trainmen.

On March 30 and 31, the students will participate in a joint program with the second annual convention of the Association of Rail Transportation Institutes, an organization of former institute students. \*Speakers on the convention program are expected to include J. J. Fitzpatrick, chairman, Traffic Executive Association—Eastern Territory; L. W. Horning, vice-president, New York Central; Colonel J. Monroe Johnson, director, Office of Defense Transportation; W. C. Kendall, chairman, Car Service Division, A. A. R.; Julius H. Parmelee, vice-president, A. A. R., and director, Bureau of Railway Economics. At the closing dinner, R. V. Fletcher, former A. A. R. president and now its special counsel, will speak on the "Position of the Railroads in the Postwar Economy." Judge Fletcher is chairman of the university's board of trustees.

The university announcement stated that institute students may be selected by their employers; and that others may apply by submitting information about their educational background or their practical experience. No specific previous education is required. The tuition will be \$125, and textbooks will cost approximately \$15. The last registration day will be February 25, and applications for admission should be directed to Dr. Homberger, the American University, 1901 F street, N.W., Washington 6, D. C.

### Fletcher Finds Favorable Factors in Railroads' Prospects

During the period 1941-45, solvent railroads voluntarily reduced their debt by an amount twice as great as the reductions caused by bankruptcy, R. V. Fletcher, former president of the Association of American Railroads, said in Cincinnati, Ohio, on January 28 in an address at the annual convention of the National Crushed Stone Association. But, Judge Fletcher added, there is another side to the picture. "For any business enterprise to be on a sound basis of good credit, earnings should certainly not be less than 6 per cent—a figure which, upon the authority of the highest courts of the land, marks the margin of confiscation. Only in one year of the last twenty-five years have railroad earnings reached the confiscation figure of 6 per cent. That was in the first war year—1942—before wages and material costs had felt the full impact of the war. In one year—1932—the rate of return was as low as 1.38 per cent."

"We have reason to believe that freight traffic handled by railroads in 1948 will approximate the volume handled in 1947," the A. A. R. officer went on. "Undoubtedly, passenger traffic will decrease as the supply of available private automobiles increases. Perhaps the decrease in passenger traffic will amount to as much as 15 per cent. Net railway operating income for 1947 (all the necessary figures not



being as yet available) was in the neighborhood of \$765,000,000. It would not seem unlikely that if present increases remain in effect for the year 1948 and there is no significant recession in business, the net railway operating income should reach \$950,000,000 this year, or something over 4 per cent on depreciated investment.

"Turning now . . . to the matter of efficiency, I am aware of the fact that there has, in the past year, been much justified complaint as to railroad service. No railroad man is unmindful of delinquencies in the matter of delayed passenger trains, slowness in the movement of less-than-carload freight, apparently inexcusable switching delays and similar criticisms. Yet the fact remains that despite all these sources of irritation, the railroads in 1947 handled a greater number of carloads of freight than in any year since 1930. In number of carloads, even the war years were surpassed. This stupendous traffic was handled with 544,000 fewer freight cars than were available in 1930. . . . On the whole, the railroads, while by no means satisfied with the operating record for 1947, have no reason to be ashamed of it. Every effort, you may be sure, will be exerted by railroad management and railroad employees to make the record for 1948 surpass that for 1947.

"There is a very natural tendency on the part of all of us to reach the conclusion that conditions with which we are familiar are far worse than prevail in fields of endeavor beyond our province," Judge Fletcher told his audience. "For years I have entertained the view that the very ultimate in efficiency and courtesy had been reached by the air lines under the leadership of their young, energetic and resourceful executives. We all heard stories of their snap and vigor, their alertness, their awareness of responsibility, all those engaging qualities that mark the real superman.

"Imagine, then, my surprise to read the following in the report of the President's Air Policy Commission, page 107: 'Air travel will never be mass transportation until people are reasonably certain that they can depart and arrive on schedule. An illustration of unreliability in good weather is afforded by the figures from an air line flying in and out of New York City in June, 1947, which was a good weather month. This air line offers overall service considered to be among the best in the country, yet of planes arriving in New York 89 per cent were late and 46 per cent of all airplanes were delayed more than one hour. Forty-one per cent of all airplane departures from New York were late, and 16 per cent were over one hour late. The steady traveler, most often a business man with appointments to maintain, has learned from bitter experience that his plane will arrive on time about once in ten trips and will depart on time even less often. This statement did not cause

me to lose my admiration for the sprightly gentlemen who serve the air line industry. It simply confirms the view that, in the aftermath of this world-shaking war, all standards of conduct and performance are unreliable."

Judge Fletcher concluded his remarks by saying there must be a realization on the part of the public that railroads are an indispensable part of the economic life of America, that their problems are the problems of every citizen,

that serious consideration should be given to their welfare and that no public policies should be followed which deny to them the privilege of earning a fair return upon their investment.

## November Truck Traffic

Motor carriers reporting to the American Trucking Associations transported in November, 1947, 2,135,692 tons of freight, a decrease of 14.6 per cent below the 2,499,883 tons transported in Octo-

## Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 127 reports (Form IBS) representing 131 steam railways (Switching and Terminal Companies Not Included)

Income Items	All Class I Railways			
	For the month of October		For the ten months of	
	1947	1946	1947	1946
1. Net railway operating income . . . . .	\$76,433,363	\$85,255,054	\$634,032,242	\$451,952,300
2. Other income . . . . .	16,909,777	16,633,347	160,281,215	153,190,741
3. Total income . . . . .	93,343,140	101,888,401	794,313,457	605,143,041
4. Miscellaneous deductions from income . . . . .	3,997,711	2,428,487	35,707,006	24,368,475
5. Income available for fixed charges . . . . .	89,345,429	99,459,914	758,606,451	580,774,566
6. Fixed charges:				
6-01. Rent for leased roads and equipment . . . . .	11,319,758	10,243,455	105,045,478	98,682,731
6-02. Interest deductions <sup>1</sup> . . . . .	25,100,025	27,375,392	256,747,546	286,326,842
6-03. Other deductions . . . . .	164,692	123,505	1,510,761	1,223,839
6-04. Total fixed charges . . . . .	36,584,475	37,742,352	363,303,785	386,233,412
7. Income after fixed charges . . . . .	52,760,954	61,717,562	395,302,666	194,541,154
8. Contingent charges . . . . .	3,857,363	3,510,409	35,010,180	31,609,867
9. Net income <sup>2</sup> . . . . .	48,903,591	58,207,153	360,292,486	162,931,287
10. Depreciation (Way and structures and Equipment) . . . . .	29,341,103	28,423,734	293,185,453	284,373,754
11. Amortization of defense projects . . . . .	1,355,393	1,083,441	13,512,628	8,068,816
12. Federal income taxes . . . . .	32,706,844	8,232,599	249,249,029	52,216,948
13. Dividend appropriations:				
On common stock . . . . .	12,551,813	3,828,360	113,559,382	122,921,938
On preferred stock . . . . .	7,915,305	6,173,905	37,033,843	36,846,900
Ratio of income to fixed charges (Item 5÷6-04) . . . . .	2.44	2.64	2.09	1.50

Selected Asset and Liability Items	All Class I Railways	
	1947	1946
17. Expenditures (gross) for additions and betterments—Road . . . . .	\$230,192,675	\$181,745,390
18. Expenditures (gross) for additions and betterments—Equipment . . . . .	425,010,637	240,804,684
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707) . . . . .	569,896,623	581,204,261
20. Other unadjusted debits . . . . .	201,162,145	175,617,647
21. Cash . . . . .	972,906,126	1,016,188,390
22. Temporary cash investments . . . . .	1,046,297,123	1,201,562,071
23. Special deposits . . . . .	143,225,394	195,924,472
24. Loans and bills receivable . . . . .	12,311,144	338,385
25. Traffic and car-service balances—Dr. . . . .	51,584,328	58,878,713
26. Net balance receivable from agents and conductors . . . . .	135,897,445	123,581,109
27. Miscellaneous accounts receivable . . . . .	285,643,739	315,022,793
28. Materials and supplies . . . . .	748,112,099	651,349,701
29. Interest and dividends receivable . . . . .	19,638,955	20,489,636
30. Accrued accounts receivable . . . . .	177,774,759	167,155,681
31. Other current assets . . . . .	37,584,047	32,299,893
32. Total current assets (items 21 to 31) . . . . .	3,630,975,159	3,782,790,844
40. Funded debt maturing within 6 months <sup>3</sup> . . . . .	85,973,904	94,970,075
41. Loans and bills payable . . . . .	4,495,000	10,752,487
42. Traffic and car-service balances—Cr. . . . .	90,713,179	104,572,898
43. Audited accounts and wages payable . . . . .	515,011,471	502,299,645
44. Miscellaneous accounts payable . . . . .	242,502,271	186,854,143
45. Interest matured unpaid . . . . .	37,782,965	67,594,439
46. Dividends matured unpaid . . . . .	4,146,504	4,183,862
47. Unmatured interest accrued . . . . .	68,902,965	63,209,130
48. Unmatured dividends declared . . . . .	23,717,066	17,788,763
49. Accrued accounts payable . . . . .	176,289,074	186,586,010
50. Taxes accrued . . . . .	667,765,237	588,243,614
51. Other current liabilities . . . . .	110,511,221	110,752,715
52. Total current liabilities (items 41 to 51) . . . . .	1,941,836,953	1,842,837,706
53. Analysis of taxes accrued:		
U. S. Government taxes . . . . .	530,570,288	446,559,737
Other than U. S. Government taxes . . . . .	137,194,949	141,683,877
54. Other unadjusted credits . . . . .	330,387,882	393,357,446

<sup>1</sup> Represents accruals, including the amount in default.

<sup>2</sup> After a deduction of \$794,133, taken out of operating revenues to create reserves for land grant deductions in dispute.

<sup>3</sup> Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

ber, but an increase of 7.7 per cent over the 1,982,143 tons hauled in November, 1946. The A. T. A. index, based on the 1938-40 average monthly tonnage of the reporting carriers, was 217.

The November, 1947, figures, according to the A. T. A., are based on comparable reports from 234 carriers in 40 states. Truckers in the Eastern district reported a decrease of 12.8 per cent below October, but an increase of 6 per cent over November, 1946. Carriers in the Southern region reported a decrease of 22.2 per cent below October, but an increase of 9.9 per cent over November, 1946, while those in the Western district reported a decrease of 15.3 per cent below October, but an increase of 10.8 per cent over November, 1946.

### Representation of Employees

The Order of Railway Conductors of America has replaced the Brotherhood of Railroad Trainmen as the representative of road brakemen employed by the Utah, according to the result of a recent election which has been certified by the National Mediation Board. In another recent election the Brotherhood of Locomotive Firemen and Enginemen retained its right to represent locomotive firemen, hostlers and hostler helpers employed by the Long Island; it defeated the challenging Brotherhood of Locomotive Engineers, 163 to 154.

The Brotherhood of Railroad Trainmen has retained its right to represent yardmen, including yard conductors, yard brakemen and switchtenders, employed by the Northern Pacific as the result of a recent election certified by the board. The B. of R. T. defeated the challenging Switchmen's Union of North America, 744 to 477.

### Warrior Terminal-I. W. C. Merger Sought in Application to I. C. C.

Approval of a proposed merger of the Warrior River Terminal Company into the government-owned Inland Waterways Corporation is sought in a joint application which those carriers have filed with the Interstate Commerce Commission. All Warrior stock is owned by the I. W. C.

The proposed merger is pursuant to the direction of Congress under the terms of the Government Corporation Control Act of 1946. That act stipulates that no wholly owned federal-government corporation created under the laws of any state (Warrior is incorporated under the laws of Alabama) shall continue as an agency or instrumentality of the United States after June 30, 1948.

Warrior owns and operates a single track, standard gage railroad extending from a connection with the Birmingham Southern and the Southern at Ensley Junction, Ala., to Port Birmingham, a landing on the Little Warrior river. It owns 0.152 miles of main line at Ensley Junction, which is leased to the Southern, and operates under

lease approximately 1.5 miles of yard tracks and sidings owned by the I. W. C. at Port Birmingham. Warrior also has trackage rights over approximately 2 miles of track owned by the Birmingham Southern at Ensley Junction.

### Travel Show at Chicago Begins February 27

Three miles of travel exhibits showing people "where to go, what to do and how to get there," will feature the International Sports, Travel and Boat Show at Chicago's Navy Pier, February 27 to March 7, inclusive, it has been announced. Exhibits by railroads, bus lines and air lines will emphasize the modern improvements and conveniences in transportation facilities, and will be supplemented by those of resorts, travel and tourist bureaus, foreign government information services, recreational area associations and chambers of commerce. The show—said to be the "greatest assembly of travel exhibits ever planned for the Midwest"—will provide for the accommodation of 50,000 persons daily. Two theaters, seating a total of 4,400 persons, will be available for the continuous showing of travel, resort and sports films.

### Asks \$445,000 for O. D. T.

President Truman has submitted to Congress a request for the appropriation of \$445,000 to permit the Office of Defense Transportation to carry on until February 28, 1949, the date to which its life has been extended by Congress. The request takes the form of an amendment to the budget for the fiscal year 1949, which the President submitted to Congress early this month and which indicated that \$593,000 would be sought for O. D. T.

The Presidential submission also included a letter from the acting director of the Bureau of the Budget who said: "Marked improvement has been effected in freight-car production through activities of the Office of Defense Transportation. Moreover, through its service orders and the efforts of its service agents to minimize delays in the movement of freight cars, a significant contribution has been achieved in increased utilization of existing transportation facilities. Continuing extraordinary demand for railroad facilities will require equally intensive activity to implement the agency's drive for further increases in freight-car construction and to expedite freight-car movements."

### A. A. R. Plans Five-Day Loss And Damage Course at Purdue

The Freight Claim Division of the Association of American Railroads has announced that it will make arrangements with Purdue University, LaFayette, Ind., for a short course on loss and damage as related to the shipment of fruits and vegetables by rail. The

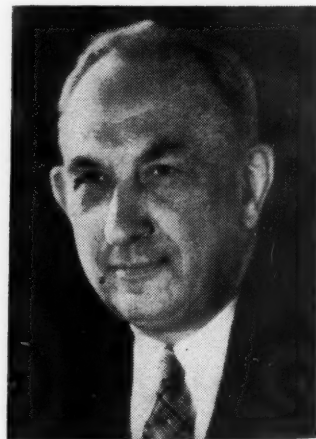
courses will be held March 22 to 26, inclusive, and will be similar to those sponsored a year ago except that provisions are being made for a larger number of entrants—at least 100. There will be no tuition fees. Expenses for board and rooms will be borne by those taking the course, but provision thereof will be arranged by the university.

Details of last year's course are published in the 1947 annual report of the National Freight Loss and Damage Prevention Committee, A.A.R. Details with respect to this year's course may be obtained through Dr. F. S. Gaylord, assistant chief in horticulture, Purdue University, LaFayette, Ind., with copy of the inquiry to C. C. Beuprie, assistant secretary, Freight Claim Division, A.A.R., Chicago 5, Ill.

### Dougherty Installed As A.S.C.E. Chief

Richard E. Dougherty, vice-president of the New York Central, with headquarters at New York, was inducted as president of the American Society of Civil Engineers at the society's annual meeting held January 21-24, inclusive, at the Hotel Commodore in New York. In addition to Mr. Dougherty, two new vice-presidents and six directors took office at the four-day sessions attended by some 2,500 persons.

The new vice-presidents are Carlton S. Proctor of New York and John W. Cunningham of Portland, Ore., both consulting engineers. The directors are William McK. Griffin, deputy chief engineer of the Triborough Bridge &



Richard E. Dougherty

Tunnel Authority, New York; Edmund A. Prentis, of the engineering and construction firm, Spencer, White & Prentis, New York; Joel D. Justin, of the consulting engineering firm, Justin & Courtney, Philadelphia, Pa.; Julian Hinds, general manager and chief engineer, Metropolitan Water District of Southern California, Los Angeles, Cal.; Webster L. Benham, head of an engineering firm bearing his name, at Oklahoma City, Okla.; and C. Glenn Cappel, of the W. Horace Williams Company,





engineering and contracting concern, New Orleans, La.

Mr. Dougherty, who has been vice-president of the N. Y. C. for 18 years, was born on February 13, 1880, at New York. He attended the College of the City of New York for three years and Columbia University for four years, graduating from the latter with a civil engineering degree in 1901. After graduation he became an instructor in Columbia's department of engineering and in 1902 he joined the New York Central, serving during the next two years as rodman, inspector, transitman and assistant engineer.

In 1904, Mr. Dougherty was appointed assistant engineer in the road's general office at New York, and in 1905 he became resident engineer. He subsequently held position successively as assistant district engineer, district engineer, designing engineer, engineering assistant to vice-president and engineering assistant to president. He became vice-president on February 1, 1930.

The new president of the A.S.C.E. was elected a junior in the society in 1903, a member in 1912 and served as director from 1927 to 1930. He is a member of the American Railway Engineers Association, the New York State Society of Professional Engineers and Land Surveyors, and served on the Committee for Study of Transportation of the Association of American Railroads. Since 1935 he has been chairman of the Grade Crossing Committee of the A.A.R., acting for all the railroads in cooperation with the Public Roads Administration. He is also chairman of the executive and operating committees of the Associated Railroads of New York State.

Freight Car Loadings

Loadings of revenue freight for the week ended January 24 totaled 771,992 cars, the Association of American Rail-

roads announced on January 29. This was a decrease of 39,294 cars, or 4.8 per cent, below the previous week, due to weather conditions affecting industrial and railroad operations, a decrease of 49,936 cars, or 6.1 per cent below the corresponding week last year, and an increase of 63,438 cars, or 9.0 per cent, above the comparable 1946 week.

Loadings of revenue freight for the week ended January 17 totaled 811,286 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., are stated below.

In Canada.—Carloadings for the week ended January 17 totaled 76,307 cars as compared with 74,300 cars for the previous week and 71,894 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
January 17, 1948 ..	76,307	35,865
January 18, 1947 ..	71,894	37,051
Cumulative totals for Canada:		
January 17, 1948 ..	204,091	97,180
January 18, 1947 ..	193,568	100,130

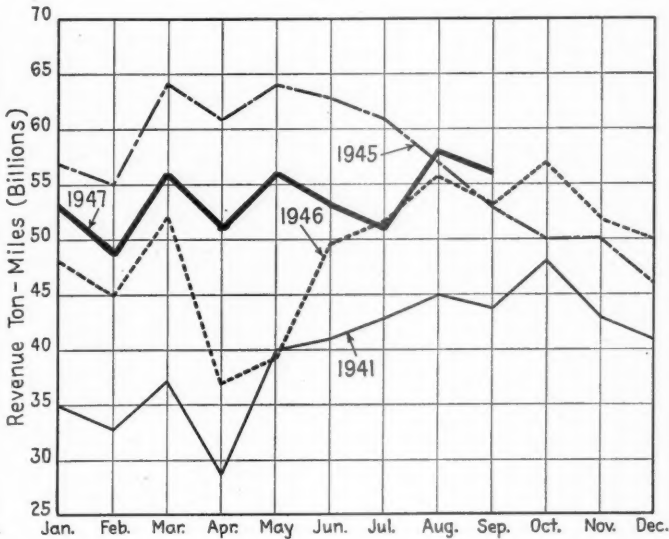
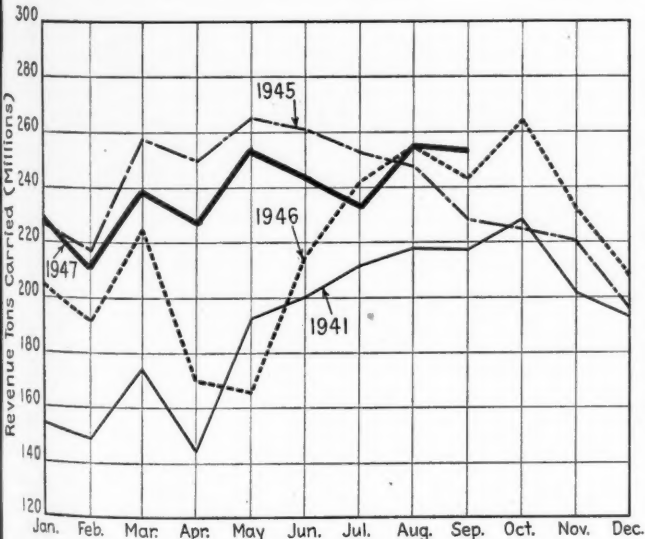
December Employment

Railroad employment decreased 0.72 per cent—from 1,341,076 to 1,331,478—during the one-month period from mid-November, 1947, to mid-December, and the mid-December, 1947, total was 1.56 per cent below that of December, 1946, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-39 average, was 132.5 for December, as compared with 130.3 for November, and 134.6 for December, 1946.

December employment was above that of the previous 1947 month in four categories, the increases ranging from 0.09 per cent in the executives, officials and staff assistants category to 0.7 per cent in the maintenance of equipment and stores group. The decreases ranged from 0.03 per cent in the professional, clerical and general category to 4.6 per cent in the maintenance of way and structures group.

As compared with December, 1946, employment in December, 1947, rose in

Revenue Freight Car Loadings For the Week Ended Saturday, January 17			
District	1948	1947	1946
Eastern .....	153,681	156,684	147,392
Allegheny .....	166,530	173,777	156,494
Pocahontas .....	68,611	72,849	61,633
Southern .....	138,326	137,121	123,044
Northwestern .....	84,224	90,665	85,713
Central Western .....	132,008	132,377	119,885
Southwestern .....	67,906	64,587	55,282
Total Western Districts .....	284,138	287,629	260,880
Total All Roads .....	811,286	828,060	749,443
Commodities:			
Grain and grain products .....	50,208	57,955	54,924
Livestock .....	12,661	18,071	11,035
Coal .....	192,560	194,669	184,694
Coke .....	15,196	14,296	10,071
Forest products .....	44,555	41,703	32,897
Ore .....	12,310	12,737	9,473
Merchandise l.c.l. ....	103,680	116,063	117,389
Miscellaneous .....	380,116	372,566	328,960
January 17 .....	811,286	828,060	749,443
January 10 .....	831,447	830,953	772,888
January 3 .....	682,038	687,428	652,978
December 27 .....	.....	599,357	627,967
December 20 .....	.....	832,130	836,185
Cumulative total, 3 weeks .....	2,324,771	2,346,441	2,175,309



Revenue Tons and Revenue Ton-Miles—1947 Compared with 1941, 1945 and 1946



three groups, the increases ranging from 0.54 per cent in the maintenance of equipment and stores category to 1.81 per cent in the executives, officials and staff assistants group. The decreases ranged from 1.24 per cent (transportation—yardmasters, switchtenders and hostlers) to 7.15 per cent in transportation, other than train, engine and yard.

### Library at Northwestern U. Given Railroad Collections

Two valuable railroad collections—one of which was a gift of the Association of American Railroads—have been acquired by the Deering Library at Northwestern University in Evanston, Ill. The A.A.R. collection includes 100 or more volumes of reports of the Railroad Committee for the Study of Transportation, and contains technical and financial data in connection with railroad problems of today. The second collection, originally assembled by the late Frank F. Fowle, prominent Chicago engineer, consists of 750 pamphlets and 250 pictures pertaining to early American railroads.

The historical collection is described by Dr. Richard C. Overton, professor of business history in the university's School of Commerce, as "sufficiently representative to explain how early canals and railways were organized, financed, located, constructed and administered." Among the pamphlets are 40 on the early history of the Michigan Central and the Michigan Southern, chronicling the rivalry between the two roads; approximately 179 reports on railroads radiating from Chicago; some 170 items on the transcontinental lines, particularly the Union Pacific; and nearly 70 relating to bridges. A series of 70 pamphlets relate to the Western (Boston & Albany), and some 40 items concern the Cumberland Road, the Chesapeake & Ohio canal and the Baltimore & Ohio.

### J. M. Carry Joins P.R. Firm

James M. Carry, former operating vice-president of the Pullman Company, who resigned from that position on September 30, 1947, has been elected a vice-president of Carl Byoir & Associates, Inc., a public relations firm. Mr. Carry, who now lives at Phoenix, Ariz., will concentrate on the development of the firm's business on the Pacific Coast, where a Los Angeles (Cal.) office is maintained.

### Joins House Committee On Interstate Commerce

Representative Keogh, Democrat of New York, has been elected to membership on the House committee on interstate and foreign commerce. He succeeds former Representative Rabin of New York, who resigned from the House.

### Chicago's First Engine to Roll

The first steam locomotive to operate in Chicago has been brought back to the property of the Chicago & North Western. It is being reconditioned for a key role in the road's centennial celebration, according to an announcement by President R. L. Williams. To commemorate the 100th anniversary of Chicago's first railroad and the birth of that city as the railroad capital of the world, the locomotive—the "Pioneer"—will tour the Middle West throughout the summer, visiting some 50 cities. On October 25 the original five-mile run from downtown Chicago to Oak Park will be reenacted.

The "Pioneer"—which was brought to Chicago by boat in 1848 by the North Western's predecessor Galena & Chicago Union—was one of the first locomotives built by Baldwin, and was received by the G. & C. U. second-hand

from a New York state railroad. The locomotive has been on exhibition in the Museum of Science & Industry in Chicago.

### First New Electric Locomotive Delivered to the Virginian

The first of four electric locomotives for the Virginian was demonstrated and turned over to F. D. Beale, president of the railroad, by the General Electric Company, at Erie, Pa., on January 14. These two-unit locomotives are rated 6,800 hp., and are said to be the most powerful continuously rated locomotives in the United States. Other equipment being supplied by the company to provide faster and more efficient transportation of coal over the Virginian's mountainous 134 miles of electrified route includes a 10,000-kw. steam turbine-generator, now under construction by the G. E. Turbine and Gear Divisions at Schenectady, N. Y.

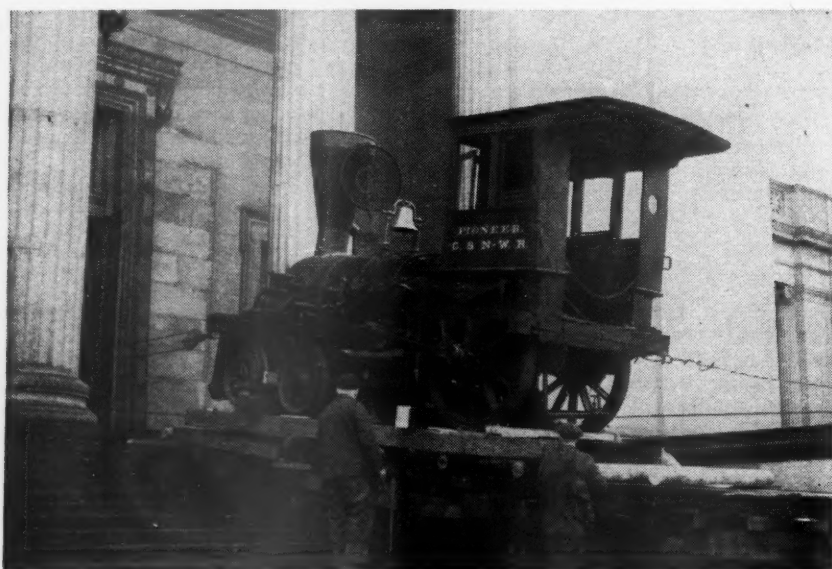
The new locomotives, of the streamlined type, have a total overall length of 150 ft. 8 in. between knuckles. Fabricated throughout from structural-steel shapes and plates, the all-welded cab is divided into three compartments: the apparatus compartment, containing the motor-generator set, transformer, and auxiliary equipment; the operator's compartment, and the "nose" compartment containing miscellaneous equipment and accessories. The sub- and truck-frames are made of heavy steel castings.

First of its type to carry 1,000,000 lb. on the drivers, the locomotive can develop continuously a tractive force of 162,000 lb. at 15.75 m.p.h. On the basis of rating input to the traction generator for traction purposes, customary in rating Diesel-electric locomotives, this all-electric locomotive has a horsepower rating of 8,000. The new design, incorporating the latest mechanical and electrical improvements and developments, will enable the G. E.-built locomotive to haul 10,000-ton coal trains at moderate speeds on heavy grades. With lighter train loads, it will be able to maintain speeds up to 50 m.p.h.

Electric power will be supplied from the 11,000-volt overhead line. Energy is supplied to the traction motors by two generators driven by a 4,000-hp. synchronous motor in each cab. The electric power is generated at the Virginian's powerhouse at Narrows, Va., where bituminous coal is used as the primary fuel.

### Brotherhood Would Change Rules on Negro Firemen

In an undertaking to comply with recent court rulings on the matter, the Brotherhood of Locomotive Firemen & Enginemen has served on southeastern railroads demands for working-rules changes which are designed to put negro firemen on the same basis as white firemen with respect to seniority and promotability to engineer positions. Here-



It was a ticklish job to remove the first steam locomotive to operate out of Chicago from the city's Museum of Science & Industry recently. The Baldwin-built "Pioneer" is to be used by the Chicago & North Western in its centennial celebration during 1948

tofore, the negro firemen have been classified as "non-promotable," and the court rulings involved have upheld attacks on that set-up which were made in complaints brought by the negroes.

The complaints have also assailed a 1941 agreement between the B. of L. F. & E. and the southeastern roads because it undertook to limit the number of "non-promotables" that would be employed, and also allegedly deprived the "non-promotables" of preferred firemen positions to which their seniority on the firemen's roster would otherwise entitle them. The latest Supreme Court determination on the matter was a refusal to review a lower court decision that sustained a grant of injunctive relief and an award of damages won by a complaining negro fireman employed by the Norfolk Southern (see *Railway Age* of December 20, 1947, page 68). Earlier in December, the United States District Court for the District of Columbia passed upon a similar complaint and issued an injunction prohibiting further adherence by the B. of L. F. & E. and the Atlantic Coast Line and Southern to the 1941 agreement.

An announcement of the B. of L. F. & E. said that the new rules demands comprised a call for "complete equality of treatment" for all firemen on the roads involved.

In addition to abolishing the "non-promotable" classification, the proposed new rules would accord the negroes their full seniority rights as firemen, including the right to take examinations for promotion to engineer. In the latter connection, it would be provided further that all firemen must, on a seniority basis, take such examinations, and all who pass would be qualified as engineers. On the matter of what happens to those who fail to pass the examinations, the B. of L. F. & E. announcement said: "Failure to take or pass these examinations results, under the operating rules in effect on most railroads, in dismissal from the service."

### I.C.C. Probe of Leasing Of Vehicles by Truckers

Division 5 of the Interstate Commerce Commission has instituted upon its own motion an investigation of the leasing and interchanging of vehicles by common-carrier and contract truckers. The proceeding is docketed as Ex Parte No. MC-43, and hearings will open on April 19 at Washington, D.C., before Examiner C. Evans Brooks.

Among other matters, the inquiry will consider whether the practices under investigation should be governed by a set of "tentative" regulations issued with the order—or "such other rules and regulations as may be found reasonable." Other questions raised by the order are whether the renting of vehicles by or to motor common and contract carriers, with or without drivers, should be limited to long-term leases; and whether

the use of leased vehicles by motor common and contract carriers should be limited to a fixed percentage of the number of vehicles to which the using motor carrier holds title.

### Repeal of Transport Taxes Urged by C. of C. Committee

Repeal of the taxes on amounts paid for the transportation of persons and property is favored by the Committee on Federal Finance of the Chamber of Commerce of the United States. The proposal was among several tax-law modifications recommended recently by the committee, which is headed by E. C. Alvord of Washington, D. C.

In a discussion of federal expenditure policies, the committee contended that new construction should be deferred, wherever possible, "in the interest of restraint upon inflation, release of materials for industry and housing and lessening of economic strain attributable to discharge of international obligations." It added that "all new spending for which no emergency is demonstrated should be rejected."

### Santa Fe's St. Louis Entry To Be Argued March 3

The Interstate Commerce Commission has set March 3 as the date of oral argument on the proposed arrangements whereby the Atchison, Topeka & Santa Fe would obtain a direct line between Kansas City, Mo., and St. Louis, while the Chicago, Burlington & Quincy would improve its route between those two points and shorten its Chicago-Kansas City route by 22 miles. The arrangements are proposed in a joint Santa Fe-Burlington application and in a Gulf, Mobile & Ohio application for authority to transfer to those two roads the control of the Kansas City, St. Louis & Chicago, which it got in connection with its acquisition of the Alton. The argument in the two proceedings—Finance Docket Nos. 15365 and 15368—will be held at the commission's Washington, D. C. offices.

As reported in *Railway Age* of November 22, 1947, page 46, commission denial of the transactions was recommended in a proposed report by C. E. Boles, assistant director of the commission's Bureau of Finance, and Examiner A. G. Nye.

### Somervell Says Railroads Must Attract Capital

Because of equipment restrictions during the recent war, material shortages since the end of hostilities, and lack of adequate revenues, the nation's railroads are not as strong as they should be, Brehon Somervell, president of the Koppers Company, said on January 22, in an address before the Pittsburgh (Pa.) Traffic Club.

"Whether the roads are rehabilitated to the extent they should be—to the extent that is necessary for the nation's welfare—depends on whether their

financial position is sufficiently improved to enable them to attract the capital necessary to pay for the job," Mr. Somervell continued. "Obviously, the railroads' financial position can be improved only when their income is sufficient to provide a fair return for the services rendered—a return that will allow reasonable remuneration to those who invest in the business, to those who manage the business and to those employed in its operations."

Mr. Somervell paid tribute to the railroads for steps taken, through the Association of American Railroads, to cooperate with the military in preparing a plan for quick mobilization of transportation forces in any emergency and said that the same sense of responsibility must pervade all industry.

### Burden of Invalidating Release In Injury Case Is on Employee

A railroad employee suing under the Federal Employer's Liability Act on a personal-injury claim with respect to which he had previously signed a release in consideration of an out-of-court settlement, must bear the burden of showing that the release "is tainted with invalidity, either by fraud practiced upon him or by a mutual mistake under which both parties acted." The United States Supreme Court has so ruled in a case docketed as No. 331, *Callen v. Pennsylvania*.

The plaintiff, Rudy E. Callen, was a Pennsylvania brakeman, who signed a general release for a consideration of \$250, and then brought the suit on the basis of allegations that he sustained permanent back injuries in jumping from a car during a "coupling operation." He contended that his jump was due to a P.R.R. engineer's "negligence" in effecting the operation "at a speed which plaintiff thought would jolt him off the stirrup of the car."

The jury in the district court awarded damages in the amount of \$24,990, but the circuit court of appeals sent the case back for a new trial, this action having been based on findings that the trial judge incorrectly assumed that there was no dispute about the permanency of the injuries and that his charge was in error in that it amounted to withdrawing the question of the validity of the release from the jury. The case reached the Supreme Court on appeal from this circuit-court determination.

In upholding that determination and ordering the case back to the district court for a new trial, the Supreme Court's opinion, delivered by Justice Jackson, said that the defendant was "entitled to argue these contentions to the jury and to have them submitted under proper instructions." It then went on to deal with suggestions that the court should decide that the burden of invalidating the release should not be upon the one who attacks it, but upon the one who "pleads such a contract."

Those making such suggestions, as Mr. Jackson put it, did not contend that



the interpretation they proposed "is or ever has been the law"; they contended that "it should be the law, at least in railroad cases." He added that an amendment of that character "is for the Congress to consider rather than for the courts to introduce," and that "if Congress were to adopt a policy depriving settlements of litigation of their *prima facie* validity, it might also make compensation for injuries more certain and the amounts thereof less speculative."

The court's majority opinion was adopted by a 5-to-4 vote, and it listed Justices Black, Douglas, Murphy and Rutledge as the dissenters who were of the view that releases under the Federal Employers' Liability Act "should be governed by the same rule which applies to releases by seamen in admiralty."

### Transportation Scholarship Set Up at Syracuse University

The establishment of the \$10,000 Harry E. Salzberg Endowment Fund for Transportation Engineering at Syracuse University, Syracuse, N. Y., has been announced by William P. Tolley, chancellor of the university. Given by Murray M. Salzberg, president of the H. E. Salzberg Company, New York utility and transportation management firm, the scholarship fund will be administered by Thomas Carroll, dean of the college of business administration, Mr. Salzberg and Louis Mitchell, dean of the college of applied science.

### Senate Opens Debate On St. Lawrence Seaway

Debate opened in the Senate January 26 on the resolution to approve the United States-Canada agreement for construction of the St. Lawrence seaway and power project. The resolution, which has provisions purporting to make the project "self-liquidating," is S. J. Res. 111, introduced by Senator Vandenberg, Republican of Michigan, for himself and a bipartisan group of 15 other senators.

As the debate got under way Senator Vandenberg, in his role of president pro tempore of the Senate, received from President Truman a letter expressing again the President's "hope that Congress will soon enact legislation approving the agreement." The President also sent a similar letter to the speaker of the House, Representative Martin, Republican of Massachusetts.

### Pennsylvania Subsidiary Gets Substituted-Service Rights

Division 5 of the Interstate Commerce Commission has approved issuance to Pennsylvania Truck Lines, Inc., a subsidiary of the Pennsylvania, of a common-carrier trucking certificate authorizing substituted truck-for-rail operations for the railroad over a network of Pennsylvania, Ohio and Indiana

routes located generally in the Pittsburgh-Fort Wayne-Richmond triangle. The report involved nine applications of Truck Lines, the title case being No. MC-19201 (Sub-No. 34).

The certificate will be subject to the usual conditions (to which the railroad did not object) designed to keep the substituted service auxiliary to rail operations. The conditions include those specifying so-called "key points" and stipulating that no shipments shall be transported by motor vehicle between any such points, or through or to or from more than one of them. One of the applications involved only a request, which the division granted, for substitution of Piqua, Ohio, for Greenville as a key point on routes for which certificates had previously been issued.

Meanwhile, with respect to the new authority granted, the division required Truck Lines to apply for cancellation of operating authorities previously obtained to the extent necessary to eliminate duplicate authorizations from the new set-up. In leading up to its finding that the applications should be granted, the division considered various opposition arguments made by numerous independent trucking companies which were protestants. It also had before it presentations made on behalf of approximately 90 shippers who supported the applications.

### Record Holiday Mail by Rail

A record load of upward to 45,974,424 sacks of parcels, containing an estimated 505,720,864 packages, were dispatched over the railroads in December, it has been announced by Second Assistant Postmaster General Paul Aiken.

### C. P. Gross Joins Staff of U. S. Military Governor of Germany

Maj. Gen. Charles P. Gross, retired, has left for Berlin to join the staff of Gen. Lucius D. Clay, United States military governor of Germany. General Gross retired as Army chief of transportation in November, 1945, and the following month was appointed chairman of the New York City Board of Transportation, in which post he served until October, 1947.

### Post Office Department Asks I. C. C. To Vacate Increased Mail Pay Order

The Post Office Department this week asked the Interstate Commerce Commission to vacate and set aside its December 4, 1947, order which approved a temporary increase of 25 per cent in railroad rates for handling mail. Pending action on its request, the petitioner held that the commission should postpone the February 1 effective date of its order, which, as reported in *Railway Age* of January 3, page 248, also prescribed retroactive adjustments from February 1 back to last February 19. The proceeding is Docket No. 9200.

Among other things, the Post Office

Department asserted that the commission exceeded its authority in entering the order, which, it said, is beyond the commission's jurisdiction and unauthorized by law. At the same time, the petitioner charged that the commission failed to hold the full hearings required by both the Administrative Procedure Act and the Railway Mail Pay Act, adding that the proceedings have not been conducted with due regard for the convenience and necessity of the postmaster general.

According to the P. O. department, the commission erred in considering and acting upon evidence offered by the railroads before the postmaster general had exhausted his rights of cross examination and the right to present his own case and offer rebuttal evidence, and erred in failing, prior to the entry of its order, to consider evidence and issues materially affecting the fairness and reasonableness of rates of railway mail pay. The petition sets out 30 specific reasons why the petitioner thinks the order should be set aside.

### Road Builders Released 3,490 Cars To Expedite Movement of Coal

A total of 3,490 highside gondola and hopper cars, generally used in hauling gravel, sand and other roadbuilding materials, were released in December, 1947, for the transportation of coal, according to reports received by the Public Roads Administration of the Federal Works Agency from state highway departments.

According to the F.W.A., diversion of freight cars of this type to the transportation of coal during the winter months was made at the request of John R. Steelman, assistant to President Truman, who asked the P.R.A. and state highway officials to assist in every possible way to make more cars available for the movement of coal.

In a report forwarded to Mr. Steelman this week, Major Philip B. Fleming, Federal Works Administrator, stated that a substantial reduction of cars normally used in Southern states to transport highway construction materials has been effected by using local materials that can be hauled by truck and by deferring less urgent road work requiring aggregates that must be hauled by rail. He noted that the number of cars required for the transportation of highway materials in Northern states during the winter months is negligible, as nearly all road construction and maintenance is suspended during December, January and February because of weather conditions.

### Equipment Depreciation Rates Prescribed for the Santa Fe

Equipment depreciation rate for the Atchison, Topeka & Santa Fe are among those prescribed by the Interstate Commerce Commission in a recent series of sub-orders modifying previous sub-orders in the general proceeding, Depreciation Rates for Equipment of



Steam Railroad Companies. The rates for the Santa Fe are prescribed in Sub-order No. 269-B, which is a modification of Sub-Order No. 269-A.

They are as follows: Steam locomotives, 2.7 per cent; Diesel-electric road locomotives, 4.9 per cent; Diesel-electric switchers, 3.88 per cent; refrigerator and ice cars, 4.7 per cent; other freight cars of wood-underframe construction, 3.6 per cent; other freight cars of steel and steel-underframe construction, 3 per cent; lightweight passenger-train cars, 3.89 per cent; other passenger-train cars, 3.26 per cent; floating equipment, 2.87 per cent; work equipment, 3.5 per cent; miscellaneous equipment, 12.6 per cent.

#### Road Fined \$800 in Court Action

The Interstate Commerce Commission has been advised that judgment in the amount of \$800 and costs has been entered against the Baltimore & Ohio Chicago Terminal in the federal district court at Chicago. The judgment was the result of a civil suit charging the carrier with having failed to unload eight cars of merchandise at Chicago in violation of the commission's Service Order No. 623.

#### Southern Pacific Fined \$5,000

The Interstate Commerce Commission has been advised that a fine of \$5,000 was imposed upon the Southern Pacific in the federal district court at San Francisco, Cal., on January 19. According to the commission, the carrier entered pleas of nolo contendere to a criminal information in 10 counts charging it with having violated section 20(7)(b) of the Interstate Commerce Act by maintaining false demurrage charges at Permanente, Cal.

#### Bills in Congress

Representative Van Zandt, Republican of Pennsylvania, has introduced H.R. 5000 to increase all benefits under the Railroad Retirement Act. As Mr. Van Zandt explained in a recent statement to the House, his proposal is to increase present benefits by 30 per cent, and to leave them on that basis "as long as the cost of living exceeds the 1935-39 cost-of-living level of 100." He said that the Railroad Retirement Board has estimated the annual cost of the liberalization at \$72,000,000.

Senator Overton, Democrat of Louisiana, has introduced S. 2041 "to amend the Act of March 19, 1918, so as to require that the standard times fixed therein shall be used in connection with all business affecting commerce."

Senator McMahon, Democrat of Connecticut, has introduced S. 2055 to amend the Railroad Retirement Act "so as to provide full annuities, at compensation of half salary or wages, for persons who have completed 30 years of service."

Senator Vandenberg, Republican of Michigan, has introduced S. J. Res. 177 to provide for participation by the government in the Pan American Railway Congress.

## SUPPLY TRADE

The Butler Manufacturing Company, Kansas City, Mo., has announced the purchase of a factory building at Richmond, Cal. The main building is one story, 400-ft. wide by 413-ft. long, and is 70-ft. high. With annexed buildings, there are 179,000-sq. ft. of floor space. Paul M. Shoemaker, now assistant to the manager of the firm's Galesburg division, will be manager of the new Richmond division, and Lloyd A. Anderson, now sales manager at the Minneapolis, Minn., plant for the company's line of steel buildings will be transferred to the new division in the same capacity.

Charles Pomeroy Collins has been elected president and a director of the Norma-Hoffman Bearings Corporation and will resign his present duties as secretary and general counsel of SKF Industries, Philadelphia, Pa. Mr. Collins has been



Charles Pomeroy Collins

associated with SKF Industries since 1942 and from 1943 to the present time has been secretary and general counsel, a member of the general staff and general advisor to all departments.

Richard J. Joyce, assistant purchasing agent of the Link-Belt Company's Indianapolis (Ind.) plants, has been promoted to purchasing agent, succeeding Frank C. Thompson, who has retired after 42 years of service with the company.

Philips B. Patton, technical coordinator of the Mobile Communications Division of the Farnsworth Television & Radio Corp., has been appointed West Coast engineering and sales representative of the division, with headquarters at San Francisco, Cal.

H. G. Bennecoff, sales manager, wire transmission division of the Federal Telephone & Radio Corp., Clifton, N. J., an affiliate of the International Telephone & Telegraph Corp., has been appointed manager of transformer sales, in addition to his other duties. Mr. Bennecoff was associated with the Bendix



H. G. Bennecoff

Aviation Corporation before joining Federal in 1944. He is a member of the executive committee of the Railway Telephone & Telegraph Association and an associate member of the Communications & Signal sections of the Association of American Railroads.

The American Locomotive Company has announced the appointment of Harry P. Davison as assistant to vice-president William S. Morris. Mr. Davison has been associated with American Locomotive since 1919. He started at the



Harry P. Davison

Montreal, Que., plant as a shop clerk and was the first special apprentice ever employed by Alco in its accounting department. He later became a specialist in cost accounting. Before being transferred to the general offices in Schenectady, N. Y., in 1936, he served in company plants at Dunkirk, N. Y. and Auburn, and Richmond, Va.

J. G. Clarke, former beverage-cooler contact representative for the direct fac-

tory sales department of the Frigidaire division of the General Motors Corporation, has been appointed railway dining car refrigeration and mobile water cooler specialist, to succeed J. R. Killen. Mr. Killen has been appointed resident



J. G. Clarke

representative for direct factory sales in the Pacific region, with headquarters in San Francisco, Cal., to succeed the late Russell Longstreth. The company also has announced the appointment of C. E. P. Smith as railway refrigeration and air conditioning specialist, a newly created sales engineering post in direct factory sales.

Mr. Clarke joined Frigidaire's commercial and air conditioning division in 1927 as sales engineer. He later



C. E. P. Smith

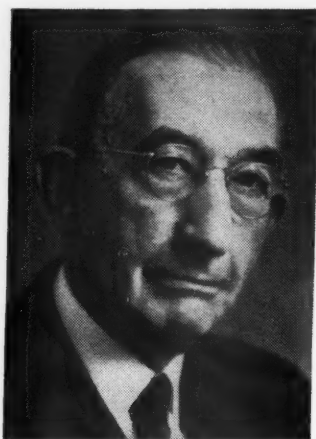
worked as zone manager of the New England and New York areas before his wartime assignment in priorities in 1941. He was with Frigidaire's machine gun training unit from 1942 until 1944 when he became associated with direct factory sales. Mr. Smith joined the company in 1936 as an instructor in the Frigidaire service department. He was transferred to direct factory sales in 1945. Mr. Killen became associated with Frigidaire's commercial sales department in 1926 and transferred to direct factory sales in 1935.

William L. Lentz, vice-president of the American Locomotive Company and a member of the firm's administrative committee, who has assumed in addition to his present duties those of J. B. Ennis, retired senior vice-president, as announced in *Railway Age* of January 17, began his railroad career in 1913 by taking a special apprentice course in the locomotive shops of the New York Central. Following World War I service as an army aviation corps lieutenant, Mr. Lentz rejoined the New York Central and advanced to the position of engineer of motive power in the engineering department at New York.



William L. Lentz

He joined the Standard Stoker Company in 1937 as assistant to the vice-president and sales manager. In 1940 he was appointed manager of American Locomotive's Schenectady, N. Y., plant and, in 1945, vice-president in charge of manufacturing. Mr. Lentz's new duties will include general railroad engineering contacts, studying and promoting progress and improvements in motive-power designs for domestic



J. B. Ennis

and foreign railroads, research and assistance to all divisions in their engineering and manufacturing activities.

Mr. Ennis has been associated with Alco and predecessor companies since

1895, when he joined the Rogers Locomotive Works as tracer, detail draftsman, and elevation draftsman. He became vice-president in charge of engineering in 1917, a director in 1924, and senior vice-president in 1941. In 1944, he was awarded the Henderson Medal of the Franklin Institute "in consideration of his accomplishments in locomotive engineering."

Orval W. Rahn, who has been associated with Luminator, Inc., at Chicago, since 1939, has been appointed associate design engineer.

Mark A. Clements, western division service manager of the Caterpillar Tractor Company, with headquarters at San Leandro, Cal., has been appointed general service manager of the company, succeeding D. O. Nash, who has resigned to become vice-president and general manager of the Wortham Machinery Company, Caterpillar distributor at Cheyenne, Wyo. W. K. Cox, assistant general sales manager, has been appointed advertising manager, succeeding Gerald M. Walker, who has retired after 33 years of service with Caterpillar.

Ward Grantham, formerly assistant to the president of P. R. Mallory & Co., Indianapolis, Ind., has joined the Nathan Manufacturing Company as assistant to the president, it has been announced.

The Baldwin Locomotive Works has announced the election of the following officers; R. F. Doolittle, vice-president, legal; Frank B. Powers, assistant vice-president, engineering; R. B. Crean, assistant vice-president, production; R. N. Watt, assistant vice-president, domestic sales, and C. A. Campbell, assistant vice-president, foreign sales.

J. V. Miller, general storekeeper of the Chicago, Milwaukee, St. Paul & Pacific for over thirty years, has joined the sales staff of the Koehring Company, Milwaukee, Wis.

F. D. Weatherholt, formerly eastern resale manager of the Westinghouse Electric Corporation, has been appointed assistant industrial sales manager, with headquarters at East Pittsburgh, Pa. The appointment of George E. Richardson as assistant to the manager of the feeder division, also was announced.

## OBITUARY

William B. Simpson, chairman of the board of A. M. Castle & Co., died on January 13.

## CONSTRUCTION

Alaska.—This road has awarded a \$384,000 contract to the Morrison-Knudsen Company for the dismantling of a forge building at a Denver (Colo.) shell plant and for its re-erection at Anchorage, Alaska.



## CAR SERVICE

The Car Service Division of the Association of American Railroads has asked railroad transportation officers to have local freight agents and traffic department representatives assist in avoiding car delays at Mexican border points by acquainting shippers of Mexican export freight with requirements as to the furnishing of export documents to customs brokers. The request came in a January 22 circular from the division's chairman, W. C. Kendall, who also sent the transportation officers a memorandum listing the required documents, which include the commercial invoice, packing list, export license, shipper's export declaration, and bill of lading. Mr. Kendall said that failure on the part of shippers to furnish these documents has frequently delayed cars at the ports of entry, particularly at the Texas and Arizona crossings. The request that local agents and traffic department representatives assist the shippers was made because it was not considered practicable to publish an embargo restriction to insure that the documents are forwarded promptly. Mr. Kendall also suggested that the shippers be acquainted with the fact that, under I.C.C. Service Order No. 135, demurrage accrues at the Mexican border at the rate of \$5.50 per car per day for each of the first two days and \$22 per car per day thereafter.

Chairman W. C. Kendall of the Car Service Division, A.A.R., advised railroad transportation officers in a January 21 circular that "some slight gain" had been made during 1947 in the ratio of home cars on line, although "as a total the showing has not been satisfactory." As of January 1, 1947, Mr. Kendall reported, there were on all roads 17 per cent of home box cars and 39.5 per cent of all cars. The respective percentages for western roads were 15.8 and 40.9. As of January 1, this year, the home box-car percentage for all roads was 19.6, on western lines, 18.1; all cars—40 per cent on all roads and 41.5 per cent in the West. Present conditions "afford a favorable opportunity to restore car handling to a basis of normal procedure," Mr. Kendall also said, adding that "particular emphasis should be placed upon the return of cars to owners at home junctions."

I. C. C. Service Order No. 790, which authorizes the director of the commission's Bureau of Service to require furnishing of cars to mines for company fuel loading without regard to car distribution rules in effect on the serving roads, has been modified by Amendment No. 1, effective January 23. The amendment adds a new paragraph (f) providing for application of the order in cases where a railroad might have less than a 16-day overall supply of coal at a point where such coal is used to provide

electric power for railroad operation. There is no change in the order's original provisions which apply in cases where a railroad has less than a 16-day overall supply of fuel coal.

I. C. C. Service Order No. 87, which relates to the free time allowed on tide-water coal and coal products at North Atlantic ports, has been modified by Amendment No. 10, which set back the expiration date from February 1 until August 1.

Special Allocation Order ODT R-3, effective January 27, was issued by Director J. Monroe Johnson of the Office of Defense Transportation to appoint Richard H. Lamberton as O. D. T. agent "to give spot relief in distressed areas for critically needed fuel oils." Mr. Lamberton, whose O. D. T. headquarters will be at 1800 Builders building, Chicago, is assistant to the president of the Union Tank Car Company. As O. D. T. agent he will be authorized to: (1) Obtain suitable tank cars for transportation of fuel oils upon certification by the fuel conservator, administrator, or similar official, appointed by the governor of a state, that an emergency exists with respect to such transportation; and (2) notify and make recommendation to the O. D. T. director when he is unable to obtain sufficient tank cars to carry out the foregoing authorization.

## EQUIPMENT AND SUPPLIES

### IRON and STEEL

The Central of Georgia has ordered 14,000 net tons of steel rails from the Tennessee Coal, Iron & Railroad Company.

The Central of New Jersey has ordered 5,000 gross tons of 131-lb. steel rails and 500 gross tons of 100-lb. steel rails from the Bethlehem Steel Company.

The Florida East Coast has ordered 11,000 net tons of steel rails from the Tennessee Coal, Iron & Railroad Company and 4,000 net tons from the Bethlehem Steel Company.

The Lehigh & New England has ordered 1,200 gross tons of steel rails from the Bethlehem Steel Company.

### SIGNALING

The New York, New Haven & Hartford has ordered materials from the General Railway Signal Company for the installation of automatic block signaling between Holmes, N. Y., and Poughkeepsie. Type-SC searchlight signals, Type-K relays, and welded steel relay cases are included in this order.

## FREIGHT CARS

The Clinchfield has ordered 1,000 50-ton hopper cars from the American Car & Foundry Co. The inquiry for this equipment was reported in *Railway Age* of January 10.

The Denver & Rio Grande Western has ordered 250 70-ton hopper cars from the Pullman-Standard Car Manufacturing Company. Delivery is scheduled to begin in July.

## ORGANIZATIONS

The third annual Industrial Packaging & Materials Handling Exposition, sponsored and produced by the Industrial Packaging Engineers Association, will be held at the Hotel Sherman in Chicago on October 5-7, inclusive.

The Canadian Railway Club who will meet February 16 at the Mount Royal Hotel, Montreal, at 8 p.m., will have as guest speaker C. B. Ward, assistant grand chief engineer, Brotherhood of Locomotive Engineers. Mr. Ward's subject will be "Labor Relations on Canadian Railways."

A meeting of the Car Department Association of St. Louis will be held on February 17 at 8 p.m., at the Hotel DeSoto, St. Louis, Mo. A paper on "Safety First" will be presented by H. A. Harris, master car builder of the Gulf, Mobile & Ohio.

The Traffic Club of Washington, D. C., will hold its forty-first annual dinner at the Mayflower Hotel in that city on February 18. The guest speaker will be Warren T. White, director of public relations of the Seaboard Air Line.

Announcement has been made that the sixth Pan-American Railway Congress will be held at Havana, Cuba, March 27 through April 4.

A meeting of the Car Foremen's Association of Omaha will be held at the Y. M. C. A., Council Bluffs, Iowa, on February 12 at 6:30 p.m.

The Central Railway Club of Buffalo will meet on February 12 at 8 p.m., at the Hotel Statler, Buffalo, N. Y. W. A. Thomas, education director, Electro-Motive Division, General Motors Corporation, will present a paper entitled "A Pat Hand of a Diesel Expert."

A meeting of the Eastern Car Foremen's Association is scheduled for February 13 at 8 p.m., at the Engineering Societies Building, New York. A discussion of the proposed changes in A. A. R. rules has been scheduled.



## ABANDONMENTS

**East Broad Top Railroad & Coal Co.**—Division 4 of the Interstate Commerce Commission has authorized this road to abandon that portion of its so-called Shade Gap branch extending from Blacklog, Pa., to the end of the branch at Shade Gap, approximately 4.6 miles. The commission, which approved the abandonment subject to the usual employee-protection conditions, noted that the line is in a poor state of maintenance and that no revenue traffic has been handled over it for three years.

**Grasse River.**—Division 4 of the Interstate Commerce Commission has authorized this road to abandon that portion of its line between Conifer, N. Y., and Cranberry Lake, approximately 13.2 miles. The commission's report noted in part that most of the applicant's present traffic moves over that portion of the railroad which will be retained in service.

**Minneapolis, St. Paul & Sault Ste. Marie.**—Division 4 of the Interstate Commerce Commission has authorized this road and the Wisconsin Central to abandon, including abandonment of operation by the former, a spur line extending approximately 3.3 miles westerly from a point near Antioch, Ill., to the end of the line in Kenosha county, Wis.

**Pecos Valley Southern.**—Acting upon request of the applicant, Division 4 of the Interstate Commerce Commission has dismissed, without prejudice, this road's application for authority to abandon and dismantle that portion of its line between Collier's Spur, Tex., and Toyahvale, approximately 20.9 miles. The applicant advised the commission that oil deposits have been discovered in adjacent territory and that potential traffic may have an appreciable effect upon its revenues.

**West Feliciana.**—Division 4 of the Interstate Commerce Commission has conditionally authorized this road to abandon its entire line, extending approximately 17.8 miles from a connection with a branch line of the Yazoo & Mississippi Valley (Illinois Central) at St. Francisville, La., to Angola, site of the farm of the Louisiana State Prison, principal user of the road. Operation of the line was discontinued in November, 1946, when several bridges were damaged by floods. The commission withheld the issuance of its certificate authorizing the abandonment, pending the applicant's acceptance within 40 days from January 2 of several conditions. One condition requires the W. F. to retain its line in place until June 30, while the other stipulates that, if prior to June 30, the state of Louisiana, or any department or subdivision thereof, offers to purchase the line, or any responsible person or corporation offers to purchase the line for

continued operation, the applicant shall sell its line to the state or person making the offer, if such offer is not less than the net salvage value of \$160,082. The latter condition, however, does not prohibit the applicant from selling its line at a price lower than the net salvage value.

Among other things, the report noted that the applicant offered to sell the line in December, 1946, to Louisiana's Department of Institutions for \$125,000, but withdrew its unaccepted offer the following March. According to the report, the protestants, including the governor of Louisiana and that state's Public Service Commission, among others, are of the opinion that the line cannot be acquired by the state and operated in common carrier service because of certain constitutional provisions.

## FINANCIAL

**Baltimore & Ohio.—Equipment Trust Certificates.**—This road has applied to the Interstate Commerce Commission for authority to assume liability for \$4,000,000 of Series X equipment trust certificates, the proceeds of which will be applied toward the purchase of 1,200 70-ton open-top steel hopper cars, at an estimated unit cost of \$4,175, from the Pullman-Standard Car Manufacturing Company. The certificates would be dated February 1 and would mature in 10 annual installments of \$400,000, starting February 1, 1949. The issue has been sold, subject to commission approval, to Salomon Brothers & Hutzler and associates on a bid of 99.723 for 2½ per cent obligations. (See *Railway Age* of January 24.)

**Chesapeake & Ohio.—Equipment Trust Certificates.**—This road has applied to the Interstate Commerce Commission for authority to assume liability for \$4,900,000 of equipment trust certificates, the proceeds of which will be applied toward the acquisition of the following equipment: 1,000 70-ton all-steel hopper cars, at an estimated unit price of \$3,555, from the American Car & Foundry Co.; 500 50-ton gondola cars, at unit prices ranging from \$3,559 to \$3,568, from the Pressed Steel Car Co.; and 6 1,500-hp. Diesel-electric road-switching locomotives at unit prices ranging from \$134,200 to \$142,200, from the Electro-Motive Division of the General Motors Corporation. The applicant told the commission it plans to acquire a total of 3,000 hopper cars and 1,000 gondolas. The certificates, to be sold on the basis of competitive bidding, would be dated February 15 and would mature in 10 annual installments of \$490,000, starting February 15, 1949.

**Chicago Great Western.—Invites Tenders of General Income Mortgage Bonds.**—This road has invited tenders of its

general income mortgage 4½ per cent bonds, due in 2038, which are returnable not later than March 1. The road stated that on or before March 15, "the executive committee will determine the amount of bonds to be purchased and maximum price at which tenders will be accepted."

**Delaware, Lackawanna & Western.—Equipment Trust Certificates.**—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for \$1,600,000 of 2¾ per cent series G equipment trust certificates, the proceeds of which will be applied toward the purchase of 500 50-ton steel sheathed box cars, at an estimated unit cost of \$4,307, from the American Car & Foundry Co. The certificates will be dated January 15 and will mature in 20 semi-annual installments of \$80,000, starting July 15. The commission's report also approves a selling price of 99.6647, based on a 2¾ per cent dividend rate, the bid of Halsey, Stuart & Co., and associates, on which basis the average annual cost will be approximately 2.81 per cent.

**Illinois Central.—To Retire Long-term Debt.**—The board of directors of this road has announced that the company will use up to \$20,000,000 of treasury funds to retire long-term debt maturing 1950 through 1955.

**Illinois Central.—Equipment Trust Certificates.**—Division 4 of the Interstate Commerce Commission has authorized this company to assume liability for \$3,200,000 of Series X equipment trust certificates, the proceeds of which will be applied toward the purchase of 1,000 50-ton hopper cars and certain passenger equipment, as outlined in *Railway Age* of July 26, 1947, page 102. The hopper cars will be acquired from the American Car & Foundry Co. and the General American Transportation Corporation, while the passenger equipment will be purchased from the Pullman-Standard Car Manufacturing Co. The certificates will be dated August 1, 1947, and will mature in 20 semi-annual installments of \$160,000, starting February 1. The report also approves a selling price of 99.3537 with a 2½ per cent interest rate, the bid of Gregory & Son, Inc., on which basis the average annual cost to the applicant will be approximately 2.65 per cent.

**New York Central.—Preliminary Annual Report.**—Net income of this road last year totaled \$2,306,082, compared with a net deficit of \$10,449,268 in 1946, according to a preliminary income statement. The 1947 net income figure includes \$7,350,156 of credit adjustment in taxes, while the 1946 deficit was after a carry-back tax credit of \$21,142,300. Operating revenues in 1947 amounted to \$703,340,527, compared with \$616,784,755 in the preceding year. Operating expenses were \$606,536,857, compared with \$558,351,-



## ***Steam trains are making 2,000,000 miles a day***



While the spotlight of public attention naturally falls on newest developments, it is sometimes well to back off and take a look at the overall picture.

We're thinking of the steam locomotive. These locomotives are making better than two million train-miles today — and will do it again tomorrow and the next day. They — these steam locomotives — are producing more revenue ton-miles right now than ever before in peacetime history.

Many of these locomotives are old, too old, and have distorted the statistics on performance. Many, however, are modern. And on modern steam power — locomotives that pack 5000 to 9000 horsepower and can stay on the road for 16 and 18 hours, and then turn around in an hour or two — the statistics look pretty good.

We build such modern power — and are convinced that it has its place.



**DIVISIONS:** Lima, Ohio — Lima Locomotive Works Division; Lima Shovel and Crane Division. Hamilton, Ohio — Hooven, Owens, Rentschler Co.; Niles Tool Works Co.

**PRINCIPAL PRODUCTS:** Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.



493. Fixed charges were \$41,518,932, compared with \$40,958,739.

**New York, Chicago & St. Louis.—Equipment Trust Certificates.**—This road has applied to the Interstate Commerce Commission for authority to assume liability for \$1,400,000 of equipment trust certificates, the proceeds of which will be applied toward the purchase of 400 50-ton all-steel box cars, at an estimated unit cost of \$4,436, from the Pullman-Standard Car Manufacturing Company. The certificates, to be sold on the basis of competitive bidding, would be dated March 1 and would mature in 10 annual installments of \$140,000, starting March 1, 1949.

**New York, New Haven & Hartford.—Boston Terminal Reorganization.**—Division 4 of the Interstate Commerce Commission has ratified the court appointment of G. F. Mahoney as successor to the late S. L. Barbour as trustee of the Boston Terminal Company.

**Northern Pacific.—New Director.**—George F. Jewett, president and treasurer of Potlatch Forests, Inc., at Lewiston, Idaho, has been elected a director of this company, succeeding the late H. H. Irvine of St. Paul, Minn.

**Pennsylvania.—Equipment Trust Certificates.**—This road has applied to the Interstate Commerce Commission for authority to assume liability for \$10,890,000 of Series S equipment trust certificates, the proceeds of which will be applied toward the purchase of 73 Diesel-electric locomotives. The applicant advised the commission that it plans to assume liability for a total of \$32,910,000 Series S certificates (including \$11,025,000 authorized by the commission last year, as reported in *Railway Age* of July 19, 1947, page 71) to finance the acquisition of 27 6,000-hp. Diesel-electric passenger locomotives, 22 6,000-hp. Diesel-electric freight locomotives, 28 1,000-hp. Diesel-electric switching locomotives, 34 600-hp. Diesel-electric switching locomotives, 1,000 box cars and nine passenger cars, at a total estimated cost of \$41,137,500. The applicant said it originally planned to acquire a total of 107 passenger cars, but that manufacturing difficulties prevented the fulfillment of that order. It therefore desires to substitute in place of the passenger equipment the following Diesel-electric locomotives, the cost of which will be financed in part by the \$10,890,000 issue:

Description and Builder	Estimated Unit Price
3 6,000-hp. Diesel-electric freight locomotives (Electro-Motive Division, General Motors Corporation)	\$600,000
8 6,000-hp. Diesel-electric freight locomotives (Fairbanks, Morse & Co.)	610,000
10 1,000-hp. Diesel-electric switching locomotives (E.-M. D.)	95,000
7 1,000-hp. Diesel-electric switching locomotives (Fairbanks, Morse)	95,000
11 1,000-hp. Diesel-electric switching locomotives (Baldwin Locomotive Works)	95,000

19 600-hp. Diesel-electric locomotives (E.-M. D.)	switching	75,000
13 600-hp. Diesel-electric locomotives (Baldwin)	switching	75,000
2 600-hp. Diesel-electric locomotives (Baldwin)	switching	79,000

The certificates, to be sold on the basis of competitive bidding, would be dated July 1, 1947, and would mature in 15 annual installments, starting July 1.

**Rio Grande Southern.—Receiver Certificates.**—Division 4 of the Interstate Commerce Commission has modified its order of May 24, 1945, to extend from May 1, 1947, to May 1, 1949, the maturity date of not exceeding \$25,700 of outstanding receiver's certificates. The modified order also sets back from May 1, 1947, to May 1, 1949 the maturity date of not exceeding \$34,300 of additional receiver's certificates heretofore authorized to be issued, and authorizes the sale or delivery thereof at par and accrued interest to the Reconstruction Finance Corporation as evidence of a loan or loans of a like amount. Proceeds of the sale will be used for rehabilitation.

**St. Louis-San Francisco.—Equipment Trust Certificates.**—This road has sold \$8,280,000 of series A equipment trust certificates to Halsey, Stuart & Co. and associates on a bid of 99.385 for an annual dividend rate of 2¾ per cent. The certificates, which will mature in equal amounts on each January 15 from 1949 to 1963, inclusive, were re-offered to the public at prices yielding from 1.50 per cent to 3 per cent, according to maturity. (See *Railway Age* of January 17, page 61.)

#### Average Prices Stocks and Bonds

	Jan. 27	Last week	Last year
Average price of 20 representative railway stocks	48.43	48.06	50.73
Average price of 20 representative railway bonds	86.09	86.34	92.42

#### Dividends Declared

Chattahoochee & Gulf.—\$1.25, semi-annually, payable February 1 to holders of record January 12.

Erie.—\$5.00 preferred, \$1.25, quarterly, payable March 1 to holders of record February 13; \$5.00 preferred, \$1.25, quarterly, payable June 1 to holders of record May 14; \$5.00 preferred, \$1.25, quarterly, payable December 1 to holders of record November 15; \$5.00 preferred, \$1.25, quarterly, payable September 1 to holders of record August 13; \$5.00 preferred, \$1.25, quarterly, payable December 1 to holders of record November 5.

Erie & Kalamazoo.—irregular, \$1.50, payable February 2 to holders of record January 19.

International of Central America.—5% preferred (accum.), \$1.25, payable February 16 to holders of record February 3.

Louisiana & Missouri.—7% guaranteed, \$3.50, semi-annually, payable February 1 to holders of record January 30.

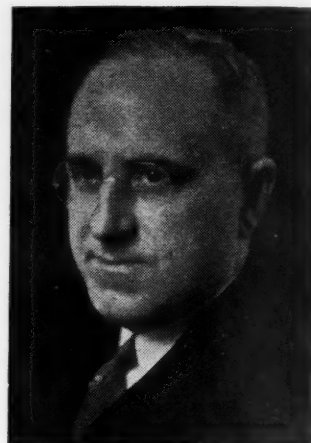
Louisville, Henderson & St. Louis.—5% preferred, \$2.50, semi-annually, payable February 15 to holders of record February 1; common, \$4.00, semi-annually, payable February 16 to holders of record January 31.

Western Pacific.—common, 7½¢, quarterly; 5% preferred A, \$1.25, quarterly, both payable February 16 to holders of record February 2.

## RAILWAY OFFICERS

### EXECUTIVE

**E. E. McInnis**, whose retirement as vice-president and general counsel of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, was reported in the *Railway Age* of January 3, was born at Monticello, Miss., on October 12, 1882, and received his higher education at Austin College in Sherman, Tex., and at the University of Texas, having been graduated from the latter in 1904. Mr. McInnis entered railroad



E. E. McInnis

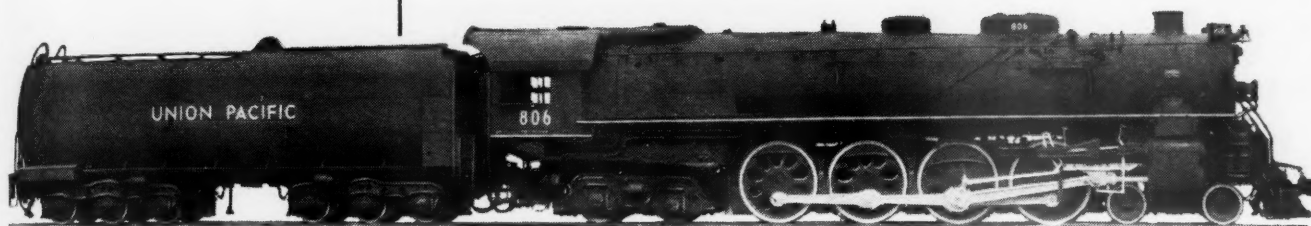
service in 1921 as an attorney for the Santa Fe at Oklahoma City, Okla., and served there until 1923, when he was appointed solicitor for Oklahoma, with the same headquarters. In 1926 he became general solicitor at Chicago, and in 1933, he was advanced to general counsel, with the same headquarters. Mr. McInnis had been vice-president and general counsel of the road since February, 1946.

**R. G. Rydin**, executive representative of the president of the Atchison, Topeka & Santa Fe, with headquarters at San Francisco, Cal., will become assistant vice-president, executive department, at Chicago on February 1. He will be succeeded at San Francisco by Leo E. Sievert, general attorney of the Santa Fe, with headquarters at Los Angeles.

**J. E. Scheu** has been appointed vice-president and general manager of the Southwestern Transportation Company (subsidiary of the St. Louis Southwestern), at Texarkana, Tex., succeeding H. R. Moore, Jr., resigned.

**C. A. Andrews**, whose election as vice-president and comptroller of the Lehigh & New England at Bethlehem, Pa., was reported in *Railway Age* of January 3, was born at Walnutport, Pa., on October 3, 1883. Mr. Andrews entered railroad service in 1901 and served until 1905 as stenographer and clerk with the Philadelphia & Reading (now Reading). During the next seven years he

# A LOCOMOTIVE that started a trend



## UNION PACIFIC

**uses Compensators and Snubbers  
on 146 roller-bearing locomotives  
to cut maintenance costs.**

**Fifty-nine roads use  
Compensators and  
Snubbers to reduce  
maintenance costs.  
These twenty roads  
use them on Roller  
Bearing Locomotives:**

A. T. & S. F.  
C. & N. W.  
C. M. St. P. and P.  
Clinchfield  
Delaware & Hudson  
D. M. & I. R.  
D. L. & W.  
Great Northern  
Missouri Pacific  
Northern Pacific  
N. C. & St. L.  
New York Central  
Norfolk & Western  
Southern Pacific  
S. P. & S.  
Texas & Pacific  
Union Pacific  
Western Maryland  
Railways of France  
National Railways of Mexico

The Franklin Automatic Compensator and Snubber established its maintenance reduction records on locomotives equipped with surface bearing driving boxes. It was Union Pacific ten years ago with its 800 class locomotives that conclusively proved that this device is equally important with roller bearings.

Since 1937 Union Pacific has equipped forty-five 4-8-4, seventy-six 4-6-6-4 and twenty-five 4-8-8-4 type locomotives with the Compensators and Snubbers and Roller Bearings. The performance record is conclusive in the reduction of maintenance and reliability of service.

Experience of 59 railroads on locomotives of widely varying types and under all varieties of operating conditions shows definitely that maintenance costs are reduced by the Compensator and Snubber because it eliminates the clearance between the driving box, or housing, and the frame, regardless of expansion or wear. Pounds are reduced, minimizing wear and failure of crank pins and rod bearings. Close fitting roller bearing assemblies are protected by the snubber because it cushions abnormal shocks. This device saves time — hours of it — since it seldom needs adjustment but which, when needed is easily made.



## FRANKLIN RAILWAY SUPPLY COMPANY

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS  
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

January 31, 1948

69



was not in railroad service but in 1913 he entered the service of the Lehigh & New England, holding various clerical and accounting positions until 1926, when he became auditor of that road. Two years later Mr. Andrews was ap-



C. A. Andrews

pointed general auditor of the L. & N. E. and in 1938 he became comptroller, which position he was holding at the time of his recent election as vice-president and comptroller.

A. J. Van Dercreek, personnel assistant to vice-president of the Union Pacific at Omaha, Neb., has been promoted to assistant vice-president in charge of personnel, with the same headquarters.

William F. Peter, whose election as vice-president and general counsel of the Chicago, Rock Island & Pacific, at Chicago, was reported in *Railway Age* of January 10, was born at Seymour, Ind., on October 26, 1883. After securing his A.B. degree from Yale University and an LL.B. degree from Columbia University, he entered general law



William F. Peter

practice in Indianapolis, Ind., in 1908. In 1911 he entered railroad service as general solicitor of the Chicago, Terre Haute & Southeastern (now part of the Chicago, Milwaukee, St. Paul &

Pacific) at Chicago, and in 1919 he went with the Rock Island as assistant general counsel, with headquarters at Chicago. He was advanced to general solicitor in 1940 and to general counsel in 1945, which position he held at the time of his recent election as vice-president and general counsel.

William H. Hillis, whose election as vice-president—operations, of the Chicago, Rock Island & Pacific, at Chicago, was reported in *Railway Age* of January 10, was born at Colona, Ill., on March 31, 1886, and entered railway service in 1906 as a rodman on the Chicago, Burlington & Quincy at Beardstown, Ill. He later served in various capacities in the engineering department of that railway until 1911, when he was appointed roadmaster. During the following five years he served in that position on various divisions, and was later transferred to the operating department as trainmaster on the Aurora division. In 1925 Mr. Hillis was appointed district engineer of maintenance of the Illinois district, with headquarters at Galesburg, Ill., and in 1927 he was ad-



William H. Hillis

vanced to assistant superintendent of the LaCrosse division. Three years later he was transferred to the Galesburg division, and in 1931, he was sent to Texas, where, as superintendent of construction, he had charge of the construction of a 110-mile line between Childress, Tex., and Pampa. Following the completion of this work, he returned to the LaCrosse division as assistant superintendent. In 1936 Mr. Hillis went with the Rock Island as engineer maintenance of way, and in 1939 he was promoted to assistant chief operating officer. He was further advanced on July 1, 1942, to operating officer, which position he held at the time of his recent election as vice-president—operations.

E. W. Soergel, freight traffic manager of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, has been elected vice-president in charge of traffic, effec-

tive on February 1. He will succeed E. B. Finegan, who has been elected vice-president with duties as assigned by the president.

Harold J. Palmer, whose appointment as transportation assistant to vice-president of the New York Central at New York, was reported in *Railway Age* of January 3, was born on May 6, 1904, at Peekskill, N. Y. Mr. Palmer received his education at Drum Hill high school, Peekskill, and Rail Transportation Institute, American University, Washington, D. C. He entered railroad service on March 11, 1923, as clerk, property protection department,



Harold J. Palmer

New York Central, at New York, becoming chief clerk in the same department at Albany, N. Y., on March 1, 1925. Mr. Palmer later became stenographer-clerk in the office of the vice president and general manager of the N. Y. C., at New York, and on August 1, 1938, was appointed secretary to the vice-president and general manager at New York. On December 2, 1942, he was appointed assistant trainmaster of the Electric, Harlem and Putnam divisions, becoming trainmaster of those divisions on August 1, 1943.

J. H. Poore, executive assistant and industrial commissioner of the Northern Pacific at St. Paul, Minn., has been promoted to vice-president-assistant to the president.

Charles A. Pinkerton, Jr., vice-president and general manager of the Detroit & Mackinac, with headquarters at Tawas City, Mich., has been elected president and general manager, with the same headquarters, succeeding his father, C. A. Pinkerton, who died on December 18, 1947.

R. D. Starbuck, executive vice-president of the New York Central system at New York, retired from that position on December 31, 1947, after more than 45 years of service, but will continue as a member of the board of directors and of the Executive committee.

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## FINANCIAL, LEGAL and ACCOUNTING

**Ben C. Dey**, whose retirement as general counsel of the Southern Pacific, at San Francisco, Cal., was reported in the *Railway Age* of January 10, was born on December 29, 1879, at Oregon City, Ore., and received his legal education at Stanford University, from which he graduated in 1905. In the following year he joined the law de-



**Ben C. Dey**

partment of the S. P. at Portland, Ore., and in 1916 was appointed general attorney for the state of Oregon. Mr. Dey became general counsel for the road at New York in 1930, remaining at that point until the railroad's general executive offices were transferred to San Francisco in 1939. He will continue as a member of the road's board of directors.

**George L. Buland**, whose promotion to general counsel of the Southern Pacific, at San Francisco, Cal., was reported in the *Railway Age* of January 10, was born on April 6, 1897, at Green-



**George L. Buland**

wood, Wis., and received his higher education at Reed College and Columbia University. Following his graduation from Columbia with a degree in law in 1919, Mr. Buland joined a law firm in Portland, Ore., which represented

the S. P. in that state. He was later appointed local attorney for the railroad at Portland, and in 1930 he went to New York as assistant general counsel. In 1945 he was advanced to associate general counsel at San Francisco, which position he held at the time of his recent appointment.

**J. R. Tedford**, traveling freight accountant of the Texas & Pacific, will become auditor of freight receipts at Dallas, Tex., on February 1, succeeding **C. B. Marshall**, who will retire on that date after 49 years of service with the railroad.

**John P. Gallagher**, whose appointment as general superintendent of insurance and fire protection of the New York Central at New York was reported in *Railway Age* of November 1, 1947, was born on April 3, 1889, at Newburgh, N. Y. Mr. Gallagher attended the grammar and high schools of Irvington, N. Y.; Industrial Trade School; Mechanics Institute; and Cooper Union. Entering railroad service in April, 1907, Mr. Gallagher served as junior draftsman, office of the architect, Electric zone improvement, New York Central, until the following November, when he was employed by outside



**John P. Gallagher**

architects. On September 13, 1910, he re-entered the service of the N. Y. C. as draftsman, Electric zone improvements, becoming chief draftsman on January 1, 1918, and assistant architect on July 1, 1918. Mr. Gallagher was fire protection inspector, U. S. Railroad Administration, office of the federal manager, from November 16, 1918, to March 1, 1920, becoming supervisor fire protection, office of vice-president, N. Y. C., on the latter date, transferring to a similar capacity in the Insurance department in October, 1923. He was appointed fire protection engineer, Insurance department, on January 1, 1930, and became architect in the office of the chief engineer, lines Buffalo and East, on May 1, 1931. He became system architect on July 1, 1944, which position he held until September 1, 1947, when he was appointed general

superintendent of insurance and fire protection in the office of the vice-president—assistant to president, New York.

**B. J. Viviano**, whose appointment as assistant general counsel of the Lehigh Valley at New York was reported in *Railway Age* of January 10, was born at Plainfield, N. J., on March 24, 1911. He received his schooling at the Plainfield high school and Andover high



**B. J. Viviano**

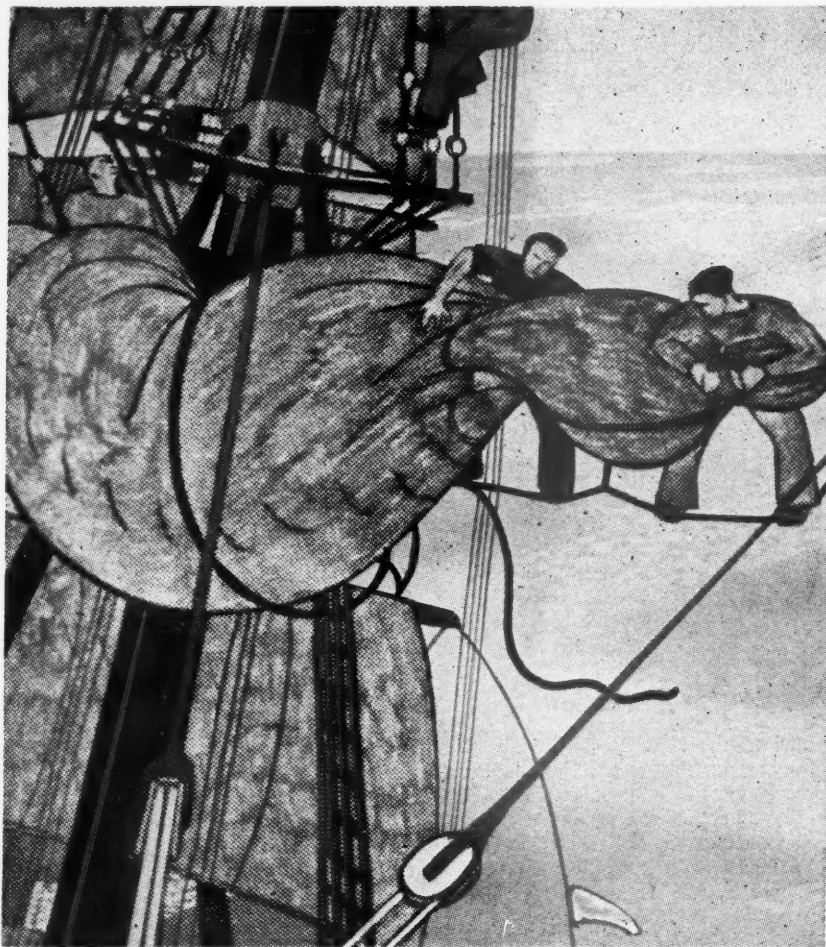
school, being graduated from Cornell University in 1933 and from Cornell Law School in 1936. He was admitted to the New York Bar in 1936 and went with the firm of Whitman, Ransom, Coulson & Goetz. He entered the U. S. Army in 1941 and had attained the rank of major when released from service on March 7, 1945. Mr. Viviano entered the service of the Lehigh Valley on March 1, 1945, and served successively as assistant general attorney and general attorney, holding the latter position at the time of his recent promotion.

## OPERATING

**T. M. Goodfellow**, division engineer, Central region of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been appointed assistant superintendent of freight transportation, Central region, at Pittsburgh.

**C. M. Schaefer**, general passenger service supervisor of the Chesapeake & Ohio at Richmond, Va., has been appointed assistant to the general manager, with the same headquarters.

**Joseph Demaree Carkhuff**, whose appointment as superintendent of the Rochester division of the New York Central at Rochester, N. Y., was reported in *Railway Age* of January 3, was born on August 1, 1892, at Raritan, N. J. Mr. Carkhuff attended the schools of Plainfield, N. J., and entered railroad service in 1908 as office boy in the superintendent's office, Central of New Jersey. The following year he became ticket agent and from 1910 to 1914 he served as signalman and



*One ship drives east and another west  
While the self-same breezes blow:  
'Tis the set of the sail and not the gale  
That bids them where to go.*

—ELLA WHEELER WILCOX.

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telegrapher. He was appointed train dispatcher in 1915 and in 1916 he left the Central of New Jersey to become signalman and telegrapher for the New York Central. He then served in the U. S. Navy as chief petty officer from 1917 to 1919. In 1920 Mr. Carkhuff



Joseph Demaree Carkhuff

returned to the New York Central as telegrapher in the fast freight office, becoming fast freight clerk in 1925. One year later he was appointed trainmaster at Kingston, N. Y., transferring to Weehawken, N. J., in 1929; to Poughkeepsie, N. Y., in 1930; to Selkirk, N. Y., in 1937 and to Albany, N. Y., in 1938. Mr. Carkhuff served as assistant superintendent, Grand Central Terminal and the Electric, Harlem and Putnam divisions from November, 1941, until his recent appointment as superintendent of the Rochester division.

William T. Cummins, whose promotion to superintendent of the Louisville & Nashville, at Middlesboro, Ky., was reported in *Railway Age* of January 17, was first employed by the road in 1909 as a clerk at Corbin, Ky., and subse-



William T. Cummins

quently served as yardmaster, general yardmaster and assistant trainmaster at that point. He was appointed assistant trainmaster for the Cumberland Valley division in 1925, and was trans-

ferred to the Cincinnati division in 1928. He was promoted to trainmaster on the latter division in 1936 and to assistant superintendent at Evansville, Ind., in 1941. Mr. Cummins went to Middlesboro in 1942 as assistant superintendent, which position he held until his recent promotion.

Kenneth R. Ketcham, whose appointment as superintendent of the Hinton (W. Va.) division of the Chesapeake & Ohio was reported in *Railway Age* of January 10, was born at West Millgrove, Ohio, on December 31, 1902. Mr. Ketcham has been with the C. & O. since June, 1920, when he was employed as a rodman, subsequently holding the positions of draftsman, instrumentman, assistant engineer, assistant trainmaster and trainmaster. In September, 1944,



Kenneth R. Ketcham

Mr. Ketcham was appointed assistant superintendent of the Hinton division, which position he held at the time of his recent promotion to superintendent.

## TRAFFIC

G. A. Henkens, chief clerk to the passenger traffic manager of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, will become general agent, passenger department, with headquarters at Omaha, Neb., on February 1. He will succeed W. E. Bock, who retires on that date, after more than 48 years of service with the road.

John C. Powers, commercial agent of the Great Northern at Duluth, Minn., has been appointed general agent at Wenatchee, Wash., succeeding L. G. Levitte. Mr. Levitte became general agent at Wenatchee on January 1, as was reported in the *Railway Age* of January 10, but has been unable to continue in that position because of illness.

William W. Fair, who has succeeded to the duties of Frank Jensen, passenger traffic manager of the Texas & Pacific, as reported in the *Railway Age* of January 10, was born at Bristol, Va., on November 4, 1888, and entered railway service on February 1, 1905, in the office of the auditor of passenger re-

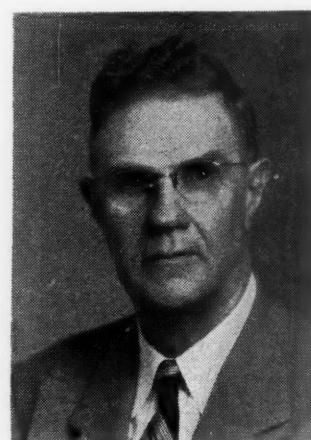
ceipts of the T. & P. He held various positions in that department until 1920, when he was assigned to the passenger traffic department as a passenger clerk. In the same year he was promoted to chief rate clerk, and in March, 1922, he was advanced to assistant chief



William W. Fair

clerk. On June 26, 1924, Mr. Fair was further promoted to chief clerk, and on August 1, 1942, he became assistant general passenger agent. He was appointed general passenger agent in December, 1945, and at the time of his recent promotion was on leave from the road while acting as vice-president and general manager of the Dallas Union Terminal.

Frank Jensen, whose retirement as passenger traffic manager of the Texas & Pacific, at Dallas, Tex., was reported in the *Railway Age* of January 10, was born on July 21, 1877, at Ulysses, Neb., and began his railroad career in 1891 as a messenger with the Chicago, Kansas & Nebraska (now Chicago, Rock Island & Pacific), at El Reno, Okla. Mr. Jensen subsequently held various clerical positions with the latter road,



Frank Jensen

and in 1912 joined the T. & P. as chief clerk in its general passenger office at Dallas. He became assistant general passenger agent at New Orleans, La., in 1920, and from 1928 to 1945 was gen-



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Sectional Packing)

Light Weight Valves  
Cylinder Liners and Pistons  
for Diesel Service  
Cylinder Snap Rings  
Valve Rings, All Shapes





eral passenger agent at Dallas. On October 1, 1945, Mr. Jensen was promoted to passenger traffic manager, the position he held at the time of his retirement.

**C. L. Dozier** has been appointed assistant to passenger traffic manager of the Chesapeake & Ohio, with headquarters at Richmond, Va.

**M. A. Phillips**, traveling agent of the Minneapolis & St. Louis at New York, has been appointed special representative, traffic department, at New York.

**Charles A. Barber**, whose appointment as passenger traffic manager of the Lehigh Valley at New York was reported in *Railway Age* of January 10, entered railroad service on November 25, 1907, as ticket clerk with the Lehigh Valley at Easton, Pa. Mr. Barber became ticket agent at Hudson Terminal, New York, on July 1, 1909, transferring to Allentown, Pa., three months later. On July 1, 1913, he became traveling passenger agent at Bethlehem, Pa., transferring to Ithaca, N. Y., in November, 1918. Mr. Barber was appointed division passenger agent at Ithaca on March 1, 1920; assistant to general passenger agent at New York in November, 1920; assistant general passenger agent at New York on November 1, 1923, and general passenger agent at New York in February, 1925, holding the latter position at the time of his recent promotion to passenger traffic manager.

**Andrew L. Bay**, whose promotion to assistant to freight traffic manager of the Southern at Washington, D. C., was reported in *Railway Age* of January 10, was born on March 10, 1901, at Cincinnati, Ohio, and was graduated from high school there. He entered railroad service as a clerk with the



**Andrew L. Bay**

Baltimore & Ohio in October, 1917, later serving for a brief period with the Pennsylvania. Mr. Bay entered the service of the Southern as a clerk at Cincinnati in July, 1923, going to Atlanta, Ga., as a rate clerk in February, 1934, where he subsequently was

promoted to officers' assistant and to assistant to the general freight agent. He was appointed chief clerk in the general freight office at Atlanta in May, 1942, and was promoted to assistant general freight agent in April, 1945, holding the latter position until his recent promotion to assistant to freight traffic manager.

**John J. Connell**, whose appointment as assistant freight traffic manager of the Lehigh Valley at New York was reported in *Railway Age* of January 10, was born in Brooklyn, N. Y., and was graduated from St. Francis high school, Brooklyn, and the School of Commerce of New York University. Mr. Connell started his Lehigh Valley service as a clerk in the operating vice-president's office in 1917 and subsequently worked in various capacities in



**John J. Connell**

the executive offices until 1929, when he was appointed chief clerk to the vice-president—traffic. Mr. Connell later was appointed special representative to the vice-president—traffic and in 1937 he became eastbound freight agent. Shortly thereafter he was appointed assistant Eastern freight traffic manager, which position he held until his recent appointment.

## ENGINEERING and SIGNALING

**Joseph B. Gunnison**, whose appointment as architect of the New York Central system at New York was reported in *Railway Age* of November 1, 1947, was born on July 18, 1889, at New York. Mr. Gunnison was educated in the schools of New York and Ireland and was graduated from Cooper Union in 1910 (architectural). He entered railroad service on April 1, 1912, with the New York Central, after working as an architectural draftsman from 1907 to 1911. Mr. Gunnison was superintendent of construction, New York subways, with A. L. Gaidone, contractor, during 1913, and from 1914 to 1915 he was architectural draftsman for the

Long Island. During the following two years he was general superintendent of construction for the R. W. Goelet estate. In 1918 he returned to the New York Central as architectural draftsman, then was chief draftsman for the White Construction Company from



**Joseph B. Gunnison**

1920 to 1922, then became commissioner of the Board of Standards & Appeals, New York. From 1925 to 1929 Mr. Gunnison conducted his own contracting business. He returned to the New York Central in 1929 and served successively as architectural draftsman and assistant architect.

**Newton W. McCallum**, whose retirement as chief engineer of the Pittsburgh & Lake Erie at Pittsburgh, Pa., was reported in *Railway Age* of January 17, was born at Renovo, Pa., on November 8, 1878. Mr. McCallum received his B. S. degree in civil engineering from Pennsylvania State College in 1899 and entered railroad service on June 15 of that year as a rodman on the New York Central. He was ap-



**Newton W. McCallum**

pointed bridge inspector on January 1, 1900; assistant supervisor of bridges in 1902; supervisor of bridges in 1904, and supervisor structures of the Electric division in 1907, all with the New York Central. Mr. McCallum was appointed division engineer of the On-

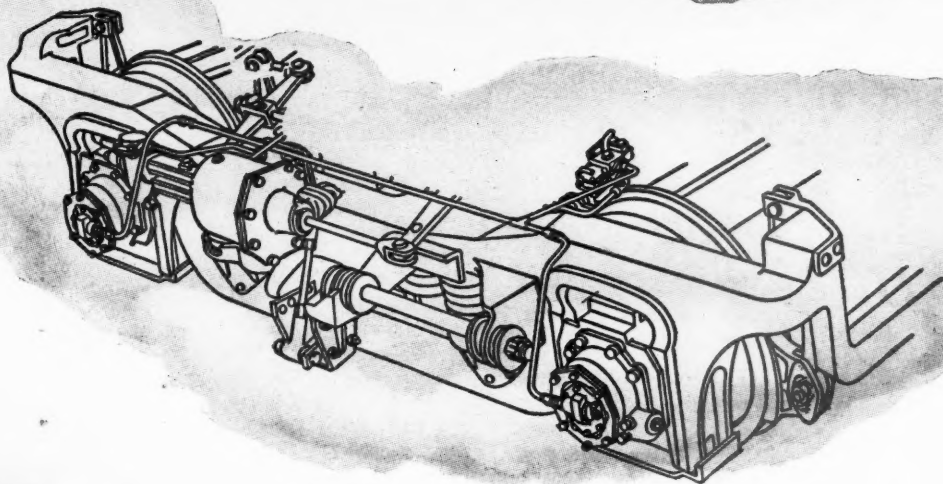
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tario division of that road in 1920, being transferred to the Electric division in 1923. He was appointed assistant chief engineer of the P. & L. E. in 1940, and became chief engineer later that same year.

**H. T. Livingston**, engineer of bridges of the Chicago, Rock Island & Pacific, has been appointed chief engineer, maintenance of way and structures, of the re-organized company, with headquarters as before at Chicago. **W. E. Heimerdinger**, assistant chief engineer, has been appointed engineer of bridges. **F. W. Thompson** continues as chief engineer of the railroad.

**E. L. Grunawalt** has been appointed superintendent of communications of the Grand Trunk Western, with headquarters at Battle Creek, Mich., succeeding to the duties of **John B. MacGregor**, who has retired as superintendent of telegraph.

## MECHANICAL

**W. Frederick A. Benger** and **L. B. George** have been appointed assistant chiefs of motive power and rolling stock of the Canadian Pacific at Montreal, Que., as reported in the *Railway Age* of January 10. Mr. Benger was born at Port Arthur, Ont., on July 29, 1892, and received his B. S. in M. E. degree from Queens University, Kingston, Ont., in 1913. He entered railroad service during the summer of 1911 as special apprentice with the Canadian Pacific Angus shops at Montreal and served during the summer of 1912 as special apprentice at the Fort William round-



W. Frederick A. Benger

house of that road. From May to October, 1913, Mr. Benger was special apprentice at the Angus shops of the C. P. R. at Montreal, becoming draftsman in the locomotive drawing office at Montreal on October 1, 1913. From August 8, 1914, to October 12, 1916, Mr. Benger was on loan to the Dominion Arsenal & Imperial Munitions Board on manufacturing and inspection of ammunition. On October 12, 1916, he became acting engineer of tests at

Montreal and from May 1, 1918, to February 15, 1923, he was chief draftsman and assistant engineer at Montreal for the C. P. R. Mr. Benger was appointed assistant mechanical engineer at Montreal on February 15, 1923; acting chief mechanical engineer at Montreal on February 1, 1941; and chief mechanical engineer at Montreal



L. B. George

on January 1, 1946, holding the latter position at the time of his recent promotion to assistant chief of motive power and rolling stock.

Mr. George was born at Ashton-in-Makerfield, England, on April 14, 1896, and entered railroad service on December 5, 1910, as messenger in the mechanical department of the Canadian Pacific at Vancouver, B. C. He was appointed clerk in that department in August, 1911, and machinist apprentice at Vancouver in August, 1913, enlisting with the Canadian Expeditionary Forces on September 7, 1915. He served with the 72nd Seaforth Highlanders, 4th Canadian Machine Gun Battalion in England, France and Belgium, and also as draftsman at Wollwich Arsenal, being wounded in the Battle of the Somme in November, 1916. Mr. George returned to the C. P. R. on July 7, 1919, and served in various capacities in the mechanical department. In September, 1940, he became division master mechanic at Lethbridge, Alta., and was loaned to the Canadian government as assistant supervisor aircraft production, Department of Munitions and Supply, at Ottawa, Ont., in July, 1941. The following September he became supervisor of aircraft production for Canada and in March, 1942, he became works manager, Weston shops, C. P. R., at Winnipeg. He held the latter position until May, 1946, when he was appointed assistant superintendent motive power and car department, Western lines, C. P. R., at Winnipeg, the position he held until his recent promotion to assistant chief of motive power and rolling stock at Montreal.

**B. B. Millikan**, assistant general boiler inspector of the Chicago, Rock Island

& Pacific, has been promoted to general boiler inspector, with headquarters as before at Silvis, Ill., succeeding the late **T. P. Golden**.

**J. C. Dietrich** has been appointed acting master mechanic of the Missouri Pacific, with headquarters at Coffeyville, Kans., succeeding to the duties of **A. R. Sykes**, who has been granted a leave of absence because of illness.

## SPECIAL

**J. S. Genthner**, assistant to executive vice-president of the Lehigh & New England, has been appointed chief of personnel, with headquarters as before at Bethlehem, Pa. The position of assistant to executive vice-president has been abolished.

**George R. Angell**, public relations representative of the Chicago, Rock Island & Pacific, at El Reno, Okla., has retired.

**Grover Y. Reed**, assistant to vice-president of the Railway Express Agency's Texas department, at Houston, Tex., has been appointed general manager there. Mr. Reed succeeds **W. M. Smith**, whose appointment as vice-president and general manager of the Mississippi Valley department, at St. Louis, Mo., was reported in *Railway Age* of December 13. **Walter W. Grove** has been appointed general manager of the Mid-West department of the Railway Express Agency, with headquarters at Kansas City, Mo., succeeding **H. H. Smith**, who has been appointed assistant to vice-president, at San Francisco, Cal. Mr. Grove is succeeded as superintendent of the Northern Texas-Louisiana division at Dallas, Tex., by **Edgar L. Head**, superintendent of the Western Texas division at San Antonio, Tex. **Hugh J. Shannon**, general agent at Seattle, Wash., has been appointed superintendent at New Orleans, La., succeeding **T. J. Seale**, transferred to Atlanta, Ga., as superintendent of organization. **Harold U. Wilcox** has been appointed superintendent of the Southern Nebraska-Iowa division, with headquarters at Lincoln, Neb.

## OBITUARY

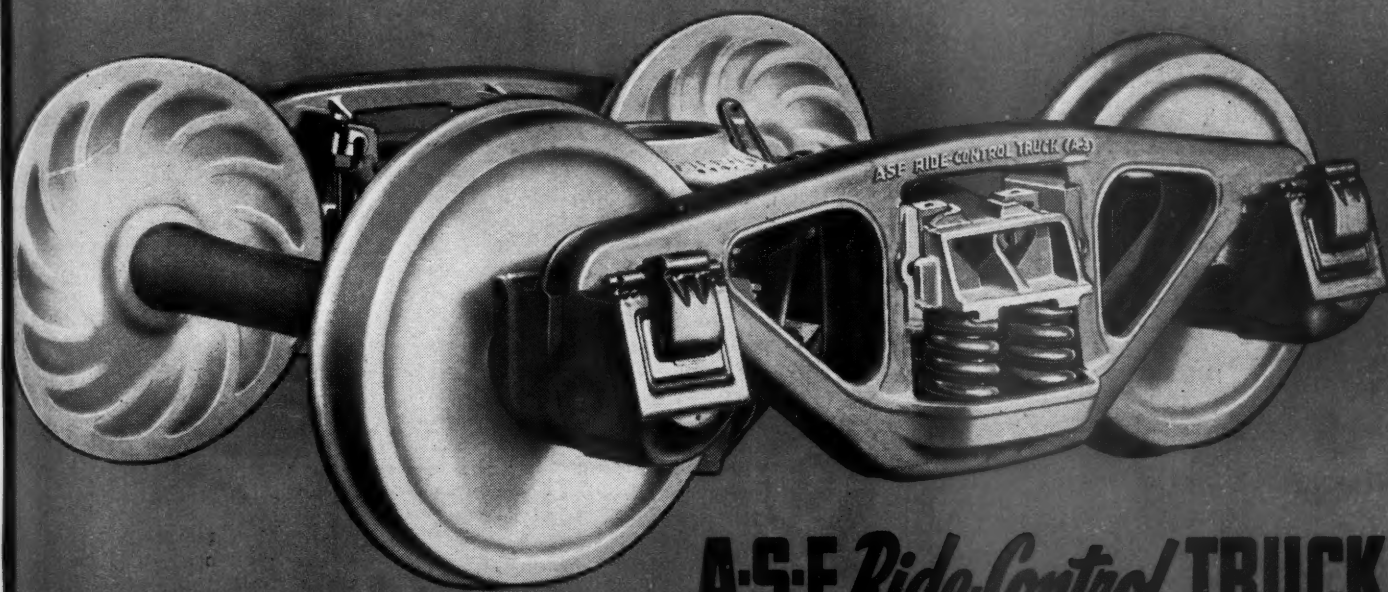
**Harry G. Brandt**, assistant vice-president of the Santa Fe Trail Transportation Company (bus subsidiary of the Atchison, Topeka & Santa Fe), with headquarters at Chicago, died suddenly in Milwaukee, Wis., on January 17.

**Samuel H. Dare**, retired general western freight agent of the Atlantic Coast Line at Chicago, died in Willoughby, Ohio, on January 25.

**T. P. Golden**, general boiler inspector of the Chicago, Rock Island & Pacific at Silvis, Ill., died recently.

**C. A. Pinkerton**, president of the Detroit & Mackinac, died at his home in East Tawas, Mich., on December 18, 1947, in his 68th year.

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# Freight Operating Statistics of Large Steam Railways—Selected

Region, road and year	Miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Road locos. on line					
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross excl. locos. & tenders	Net-rev. and non-rev.	Serviceable		B. O.	Per cent B. O.		
									Unstored	Stored				
New Eng. Region	Boston & Albany .....	1947	362	151,382	166,985	23,934	3,693	64.7	241,653	103,446	73	1	20	21.3
	.....	1946	362	157,400	174,348	25,417	3,854	66.6	237,500	97,602	60	2	27	30.3
	Boston & Maine .....	1947	1,746	330,184	342,554	16,554	12,843	72.9	776,537	342,913	107	2	14	11.4
	.....	1946	1,750	338,251	348,624	12,746	13,216	72.4	808,465	364,365	107	18	14	10.1
	N. Y., New H. & Hartf. ....	1947	1,820	363,955	649,285	60,750	14,720	71.9	867,966	387,825	223	4	24	16.3
Great Lakes Region	.....	1946	1,820	395,299	533,205	42,258	16,097	74.0	926,956	415,906	190	13	67	23.5
	Delaware & Hudson .....	1947	794	298,876	362,723	37,063	13,501	72.7	945,625	524,269	120	28	30	16.9
	.....	1946	846	305,015	371,792	38,520	13,530	69.9	960,757	524,062	117	54	34	16.6
	Del., Lack. & Western .....	1947	970	359,118	409,511	49,756	15,471	70.4	1,022,772	480,049	114	9	17	12.1
	.....	1946	971	332,735	379,189	46,942	14,651	73.8	933,512	442,995	112	21	38	22.2
	Erie .....	1947	2,229	872,973	937,122	81,940	44,010	66.9	2,888,590	1,217,492	280	8	85	22.8
	.....	1946	2,242	824,997	880,581	79,253	42,103	69.9	2,680,132	1,162,934	265	25	95	24.7
	Grand Trunk Western .....	1947	972	311,728	319,289	2,597	10,130	69.5	639,400	280,775	65	..	9	12.2
	.....	1946	972	285,068	290,969	2,549	9,803	69.1	612,340	267,725	67	1	7	9.3
	Lehigh Valley .....	1947	1,239	351,749	393,515	59,120	15,663	70.3	1,058,413	530,856	105	5	58	34.3
	.....	1946	1,242	319,555	355,950	60,577	14,863	73.8	978,052	500,052	117	15	37	21.9
	New York Central .....	1947	10,338	3,481,059	3,730,902	252,635	131,667	66.5	8,898,211	4,228,879	1,063	35	307	21.9
	.....	1946	10,328	3,433,716	3,692,173	246,472	131,320	65.8	8,853,802	4,151,782	1,053	21	312	22.5
	New York, Chi. & St. L. ....	1947	1,656	673,659	682,707	9,474	27,757	70.8	1,738,620	776,563	148	1	20	11.8
	.....	1946	1,656	608,559	612,041	7,578	26,410	75.5	1,591,478	744,968	136	7	21	12.8
Pitta. & Lake Erie .....	1947	223	104,861	106,101	179	4,329	70.3	354,728	214,794	31	4	17	32.7	
.....	1946	229	102,696	104,028	81	4,115	64.5	340,165	195,180	33	5	12	24.0	
Wabash .....	1947	2,381	712,396	729,389	17,089	26,445	72.5	1,660,837	741,096	163	10	30	14.8	
.....	1946	2,381	690,199	708,734	17,289	25,539	74.4	1,592,764	733,676	160	9	39	18.8	
Central Eastern Region	Baltimore & Ohio .....	1947	6,100	2,127,935	2,679,430	297,136	77,550	65.6	5,599,022	2,816,212	864	13	277	24.0
	.....	1946	6,103	2,088,183	2,589,498	289,862	74,352	68.1	5,192,841	2,626,357	821	10	334	28.7
	Central of New Jersey* .....	1947	418	82,622	88,206	9,257	3,281	67.0	244,465	126,130	47	1	16	25.0
	.....	1946	419	88,361	101,170	22,735	3,538	68.4	249,898	132,508	64	..	27	29.7
	Central of Pennsylvania .....	1947	213	82,059	95,558	18,688	3,160	69.9	231,943	125,253	43	3	17	27.0
	.....	1946	230	88,345	105,106	22,827	3,274	69.8	234,861	127,807	40	..	24	37.5
	Chicago & Eastern Ill. ....	1947	910	183,015	183,510	3,704	5,836	73.4	376,588	190,966	57	..	15	20.8
	.....	1946	910	196,025	197,700	4,403	5,939	72.3	391,763	199,243	59	..	21	26.3
	Elgin, Joliet & Eastern .....	1947	391	125,189	131,184	4,577	3,968	71.0	297,061	165,361	49	5	7	11.5
	.....	1946	391	122,445	127,189	3,549	3,831	68.8	289,529	158,387	45	1	16	25.8
	Pennsylvania System .....	1947	10,029	4,123,772	4,667,405	625,258	171,538	69.2	11,845,582	6,059,376	1,925	11	264	12.0
	.....	1946	10,033	4,257,103	4,931,436	678,110	174,049	69.0	11,919,414	6,061,586	1,924	30	260	11.7
	Reading .....	1947	1,355	477,819	526,254	61,230	17,770	67.5	1,341,121	744,267	228	22	28	10.1
	.....	1946	1,361	539,238	599,062	70,770	18,119	67.2	1,369,368	758,819	252	24	51	15.6
	Western Maryland .....	1947	837	229,533	273,472	36,593	7,957	63.5	655,899	365,192	156	6	14	8.0
.....	1946	839	208,241	244,753	32,948	7,048	64.8	576,238	325,108	141	7	15	9.2	
Poca-hontas Region	Chesapeake & Ohio .....	1947	4,987	1,816,187	1,938,347	89,333	80,753	58.4	6,746,952	3,821,564	613	6	84	11.9
	.....	1946	4,980	1,657,725	1,762,193	80,205	73,034	59.8	5,967,711	3,362,986	591	1	99	14.3
	Norfolk & Western .....	1947	2,108	865,138	919,087	62,266	40,566	59.0	3,537,345	1,957,719	263	31	24	7.5
	.....	1946	2,139	806,088	859,027	60,415	37,781	60.0	3,216,613	1,767,448	260	42	22	6.8
Southern Region	Atlantic Coast Line .....	1947	5,556	882,661	899,367	13,967	24,511	67.7	1,605,042	747,897	340	45	51	11.7
	.....	1946	5,554	944,624	959,926	16,080	25,302	70.0	1,566,751	736,571	372	50	33	7.3
	Central of Georgia* .....	1947	1,782	312,455	319,365	6,150	7,957	71.9	514,460	245,125	96	..	11	10.3
	.....	1946	1,783	318,448	324,894	6,917	8,072	73.0	521,916	243,251	92	..	9	8.9
	Gulf, Mobile & Ohio .....	1947	2,846	422,149	424,028	892	19,987	77.2	1,248,745	622,309	190	11	5	2.4
	.....	1946	2,846	459,807	517,194	2,565	16,767	76.4	1,049,001	502,282	174	24	37	15.7
	Illinois Central .....	1947	6,581	1,533,285	1,547,659	53,310	58,814	68.3	3,919,354	1,886,653	578	17	69	10.4
	.....	1946	6,582	1,476,816	1,489,945	53,412	57,020	69.3	3,812,766	1,808,406	590	6	93	13.5
	Louisville & Nashville .....	1947	4,756	1,575,844	1,716,866	48,715	41,187	64.2	3,014,781	1,592,121	413	..	67	14.0
	.....	1946	4,750	1,540,005	1,669,236	46,268	41,674	65.5	2,947,504	1,532,920	401	13	56	11.9
	Nash., Chatt. & St. Louis .....	1947	1,052	308,322	333,820	9,098	7,540	78.7	462,873	224,504	86	..	14	14.0
	.....	1946	1,053	288,163	329,639	8,905	7,234	81.0	420,965	204,691	82	..	13	13.7
	Seaboard Air Line .....	1947	4,145	783,446	861,144	11,847	23,477	70.6	1,531,949	721,356	285	6	54	15.7
	.....	1946	4,143	819,950	874,120	14,141	25,416	73.5	1,615,596	759,704	268	4	58	17.6
	Southern .....	1947	6,451	1,850,484	1,881,288	31,971	50,496	71.2	3,184,493	1,465,943	562	29	101	14.6
.....	1946	6,450	2,096,610	2,134,422	38,181	50,657	74.6	3,099,629	1,446,916	604	..	103	14.6	
Northwestern Region	Chi. & North Western .....	1947	8,061	1,198,093	1,255,580	31,052	40,359	71.4	2,622,053	1,210,740	366	..	116	24.1
	.....	1946	8,062	1,225,992	1,279,689	34,088	40,564	70.4	2,654,668	1,156,074	372	..	144	27.9
	Chicago Great Western .....	1947	1,445	276,477	278,788	20,218	10,763	71.4	661,349	300,876	65	5	14	16.7
	.....	1946	1,445	285,805	287,586	16,280	9,406	75.7	588,536	273,706	66	..	14	17.5
	Chi., Milw., St. P. & Pac. ....	1947	10,677	1,703,421	1,786,629	76,862	59,731	67.3	3,986,602	1,824,622	488	20	96	15.9
	.....	1946	10,725	1,619,630	1,711,952	72,084	55,784	67.6	3,681,574	1,707,817	496	26	96	15.5
	Chi., St. P., Minneap. & Om. ....	1947	1,606	235,495	252,760	14,212	6,771	76.3	437,342	211,300	79	..	33	29.5
	.....	1946	1,606	237,400	253,777	16,424	6,537	71.2	435,210,					

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# Items for the Month of October 1947 Compared with October 1946

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		Freight cars on line				G.t.m. per train-hr. excl. locos. and tenders		G.t.m. per train-mi. excl. locos. and tenders		Net ton-mi. per train-mile		Net ton-mi. per l'd. car-mile		Net ton-mi. per car-day		Car miles per car-day		Net daily ton-mi. per road-mi.		Coal lb. per 1000 g.t.m. inc. loco.		Mi. per loco. per day	
Region, road and year		Home	Foreign	Total	Per Cent B. O.																		
New Eng. Region	Boston & Albany .....	1947	227	5,130	5,357	0.5	24,732	1,599	684	28.0	637	35.2	9,218	174	74.1								
	1946		304	6,032	6,336	0.4	22,795	1,513	622	25.3	518	30.7	8,697	191	81.4								
	Boston & Maine .....	1947	1,499	11,136	12,635	2.8	35,145	2,356	1,040	26.7	860	44.2	6,335	105	102.4								
	1946		1,651	12,221	13,872	2.5	35,535	2,394	1,079	27.6	874	43.8	6,716	100	89.2								
	N. Y., New H. & Hartf. ....	1947	1,035	18,827	19,862	1.4	32,994	2,391	1,068	26.3	621	32.7	6,874	82	96.6								
Great Lakes Region	1946		1,463	21,325	22,788	2.3	31,311	2,351	1,055	25.8	609	31.9	7,372	89	75.6								
	Delaware & Hudson .....	1947	1,728	7,725	9,453	3.8	56,567	3,179	1,762	38.8	1,779	63.1	21,300	102	74.9								
	1946		2,499	7,701	10,200	3.1	53,773	3,168	1,728	38.7	1,682	62.1	19,983	104	66.9								
	Del., Lack. & Western .....	1947	3,649	13,012	16,661	3.9	42,462	2,896	1,359	31.0	907	41.6	15,964	111	114.9								
	1946		3,914	14,751	18,665	3.4	41,513	2,849	1,352	30.2	769	34.4	14,717	108	89.6								
Central Eastern Region	Erie .....	1947	5,629	28,312	33,941	3.4	55,236	3,328	1,403	27.7	1,177	63.6	17,620	93	96.0								
	1946		5,513	32,156	37,669	2.1	52,973	3,280	1,423	27.6	1,036	53.6	16,732	94	88.2								
	Grand Trunk Western .....	1947	3,786	10,993	14,779	5.9	39,868	2,064	907	27.7	634	32.9	9,318	91	155.1								
	1946		3,632	11,062	14,694	5.5	40,885	2,158	943	27.3	598	31.7	8,885	92	137.8								
	Lehigh Valley .....	1947	6,241	13,671	19,912	8.0	53,436	3,079	1,544	33.9	829	34.7	13,821	104	91.1								
Central Eastern Region	1946		4,678	15,284	19,962	3.4	50,858	3,163	1,617	33.6	868	35.0	12,988	106	84.2								
	New York Central .....	1947	41,069	110,513	151,582	2.9	40,548	2,591	1,231	32.1	919	43.1	13,196	104	104.0								
	1946		43,128	116,809	159,937	3.5	39,331	2,610	1,224	31.6	856	41.2	12,968	105	104.5								
	New York, Chi. & St. L. ....	1947	1,904	13,982	15,886	1.5	48,818	2,589	1,156	28.0	1,572	79.4	15,127	87	143.2								
	1946		1,751	13,025	14,776	1.8	49,141	2,627	1,229	28.2	1,597	75.0	14,512	82	126.9								
Central Eastern Region	Pitts. & Lake Erie .....	1947	3,246	9,281	12,527	7.8	51,202	3,404	2,061	49.6	558	16.0	31,071	96	73.6								
	1946		2,377	9,366	11,743	3.4	49,608	3,326	1,909	47.4	509	16.7	27,494	97	72.8								
	Wabash .....	1947	4,850	16,816	21,666	3.9	45,679	2,351	1,049	28.0	1,139	56.1	10,040	104	124.0								
	1946		5,007	17,859	22,866	2.8	45,381	2,331	1,074	28.7	1,119	52.3	9,940	107	118.8								
	Baltimore & Ohio .....	1947	38,350	51,965	90,315	4.8	32,573	2,689	1,353	36.3	1,007	42.3	14,893	146	86.9								
Central Eastern Region	1946		34,119	52,765	86,884	4.1	31,227	2,537	1,283	35.3	964	40.1	13,882	148	82.6								
	Central of New Jersey* .....	1947	687	9,565	10,252	3.5	37,872	3,042	1,570	38.4	396	15.4	9,734	117	74.8								
	1946		818	10,912	11,730	2.9	35,187	2,915	1,546	37.5	373	14.6	10,202	126	67.7								
	Central of Pennsylvania .....	1947	822	4,350	5,172	7.6	37,825	2,994	1,617	39.6	798	28.8	18,969	118	68.2								
	1946		1,038	3,731	4,769	8.4	32,972	2,758	1,501	39.0	825	30.0	17,925	129	71.3								
Central Eastern Region	Chicago & Eastern Ill. ....	1947	1,415	4,393	5,808	3.4	35,090	2,081	1,055	32.7	1,037	43.2	6,769	117	87.1								
	1946		1,688	4,102	5,790	5.1	34,712	2,029	1,032	33.5	1,071	44.1	7,063	114	86.8								
	Elgin, Joliet & Eastern .....	1947	5,568	10,752	16,320	1.4	17,008	2,510	1,397	41.7	344	11.6	13,643	126	112.3								
	1946		5,365	11,370	17,935	1.9	18,197	2,498	1,367	41.3	297	10.4	13,067	136	98.7								
	Pennsylvania System .....	1947	100,855	150,040	250,895	9.4	37,593	2,971	1,520	35.3	783	32.0	19,490	117	84.5								
Central Eastern Region	1946		117,692	131,392	249,084	8.8	36,847	2,898	1,474	34.8	787	32.8	19,489	120	89.2								
	Reading .....	1947	8,854	25,732	34,586	3.5	34,302	2,814	1,562	41.9	717	25.4	17,719	105	79.6								
	1946		9,161	24,366	33,527	2.5	32,347	2,543	1,409	41.9	722	25.7	17,985	110	77.5								
	Western Maryland .....	1947	2,380	4,554	6,934	1.3	30,837	2,896	1,612	45.9	1,548	53.1	14,075	156	62.0								
	1946		1,975	5,085	7,060	.8	30,122	2,826	1,595	46.1	1,411	47.2	12,500	159	60.0								
Central Eastern Region	Chesapeake & Ohio .....	1947	44,210	34,401	78,611	1.6	54,954	3,765	2,133	47.3	1,608	58.2	24,720	78	100.2								
	1946		37,410	36,933	74,343	1.9	53,036	3,675	2,071	46.0	1,458	52.9	21,784	79	94.0								
	Norfolk & Western .....	1947	25,031	8,477	33,508	1.6	65,499	4,152	2,298	48.3	1,815	63.7	29,958	90	108.3								
	1946		22,780	8,436	31,216	.5	62,774	4,045	2,223	46.8	1,823	64.9	26,655	89	99.6								
	Atlantic Coast Line .....	1947	7,922	20,298	28,220	4.5	27,999	1,823	849	30.5	883	42.8	4,342	113	74.5								
Southern Region	1946		7,519	20,309	27,828	3.8	26,674	1,664	782	29.1	896	44.0	4,278	117	75.0								
	Central of Georgia* .....	1947	1,562	6,591	8,153	3.8	29,171	1,654	788	30.8	1,010	45.6	4,437	137	108.4								
	1946		1,109	6,382	7,491	1.2	30,139	1,644	766	30.1	1,031	46.8	4,401	136	113.5								
	Gulf, Mobile & Ohio .....	1947	2,419	14,592	17,011	1.0	52,185	2,966	1,478	31.1	1,139	47.4	7,054	51	71.8								
	1946		2,391	13,489	15,880	1.3	36,256	2,295	1,099	30.0	1,080	47.1	5,693	97	76.3								
Southern Region	Illinois Central .....	1947	13,666	38,597	52,263	1.3	42,852	2,609	1,256	32.1	1,181	53.9	9,248	119	83.1								
	1946		12,901	35,166	48,067	1.1	43,137	2,653	1,300	32.8	1,255	55.2	9,157	119	77.3								
	Louisville & Nashville .....	1947	24,303	18,513	42,816	3.6	28,879	1,913	1,010	38.7	1,234	49.8	10,799	124	124.7								
	1946		23,489	16,866	40,355	3.8	29,181	1,914	995	36.8	1,233	51.2	10,410	124	122.5								
	Nash., Chatt. & St. Louis .....	1947	1,304	5,763	7,067	6.7	28,897	1,509	732	29.8	1,066	45.5	6,884	129	115.2								
Southern Region	1946		805	5,486	6,291	2.2	26,964	1,466	713	28.3	1,096	47.8	6,271	142	117.6								
	Seaboard Air Line .....	1947	5,743	17,286	23,029	2.0	34,108	1,998	941	30.7	1,051	48.5	5,614	118	91.9								
	1946		5,005	19,026	24,031	1.6	34,184	2,017	948	29.9	1,063	48.4	5,915	116	96.2								
	Southern .....	1947	12,160	31,158	43,318	4.5	28,786	1,741	801	29.0	1,119	54.2	7,330	132	95.0								
	1946		12,681	32,810	45,491	4.1	25,158	1,496	698	28.6	1,015	47.7	7,236	139	104.9								
Southern Region	Chi. & North Western .....	1947	16,377	40,047	56,424	2.7	32,421	2,334	1,078	30.0	671	31.3	4,845	122	93.4								
	1946		19,088	37,852	56,940	3.1	32,302	2,299	1,001	28.5	637	31.7	4,626	125	8								

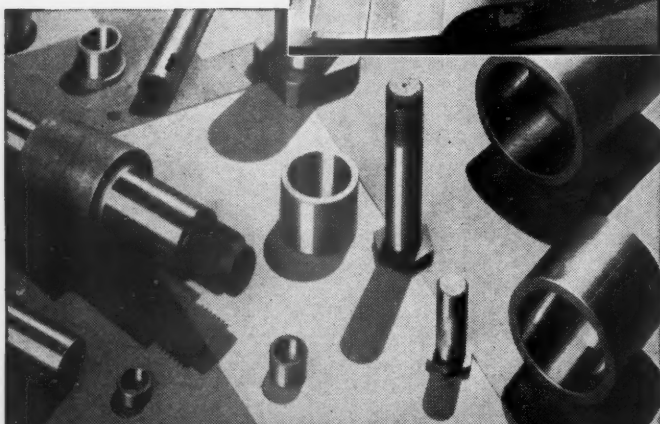
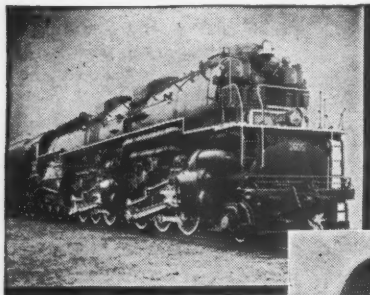


# Specify EX-CELL-O

*Hardened and Ground Steel*

## PINS and BUSHINGS

for  
**Diesel and Steam  
Locomotives and  
Tenders . . . and  
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and  
Freight  
Cars**



*Railroad Division*  
**EX-CELL-O CORPORATION**  
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46-11

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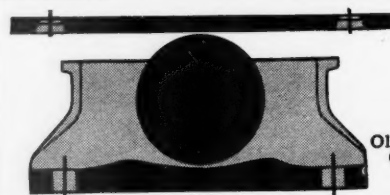
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## Kendall Report Hails '47 Loading Record

(Continued from page 56)

both single and double deck stock cars is fully adequate to meet all current requirements, single decks are being substituted for box cars whenever possible.

"According to reliable forecasts, there will be particularly heavy demands during 1948 for gondolas and hoppers to protect anticipated increased tonnage movements for cars of this type," Mr. Kendall continued. "Steel, coal, ore, road and building construction materials are likely to be offered in heavier volume than in 1947 and, considering our experience last year, it is apparent that we shall continue to have some shortages in the supply of cars of these types.

The continued car efficiency activities of shippers and receivers is solicited, particularly the loading of all cars to or in direction of owning lines in accordance with car service rules. This will be of substantial assistance to the railroads in their endeavors to furnish adequate service."

**New Demands Soon**—The report also points out that the box car supply was "easier" in the first half of January than at any time in recent years. Noting that the lull in loadings offered an excellent opportunity to relocate box cars to home roads, Mr. Kendall said that all orders providing for scheduled deliveries of box cars to western roads were cancelled effective January 4. Since that date, he said, the box cars have been handled in accordance with car service rules.

Mr. Kendall stated, however, that it is expected that the year-end slack in box car demands will be temporary, adding that various roads are now reporting increased requirements and tightening of supply. "In consideration of the anticipated heavy demands," he went on, "it is essential that utmost efforts be exerted to release promptly and move with dispatch all box car equipment so that maximum utilization of every car will be obtained."

Mr. Kendall also reported that (1) the volume of grain moved to ports under the government's export grain program continues to exceed the quotas established, the December, 1947, allocations being exceeded by almost 63 per cent, while 88.2 per cent of the January quota was moved during the first 11 days of this month; (2) the covered hopper ownership was increased by approximately 2,500 units during 1947, with a "substantial number" of such cars being released from bulk cement loading requirements in recent weeks and transferred by the C.S.D. on request of owning roads to other roads requiring cars of this type; and (3) the refrigerator car supply, generally has been satisfactory. He said, however, that it will be necessary during the next 30 days to secure prompt releases and quick dispatching on all empty RS type reefers in the East in order to continue to protect all business offered

in Maine, Florida, California, Red River Valley and Texas during the next two months.

Discussing the vacation before it became effective of the Interstate Commerce Commission's Service Order No. 778, which had been designed to prescribe railroad operating regulations for car movement, Mr. Kendall said that an "important part" of the voluntary agreements that the carriers have filed with the commission as a substitute for the order is an "undertaking by each of the railroads to maintain sufficient car records at each station to insure the prompt detection of delayed

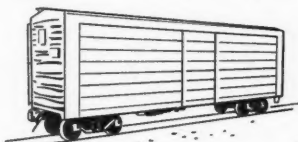
cars." Details of the agreement were reported in the *Railway Age* of December 27, 1947, page 62.

Other parts of Mr. Kendall's report show that the average turn-around time of freight cars for December, 1947, totaled 14.93 days, as compared with 15.78 days in the comparable 1946 month; and that there were more U. S. railroad-owned cars in Mexico as of January 1 than for "some time." In the latter connection, Mr. Kendall said it has been necessary lately to curtail somewhat the volume of traffic being permitted under C. S. D. Embargo No. 400.

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